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PROCEEDINGS
OF THE
ASIATIC SOCIETY OF BENGAL.

EDITED BY



THE HONORARY SECRETARIES,



JANUARY TO DECEMBER,
1898.



CALCUTTA:
PRINTED AT THE BAPTIST MISSION PRESS,
AND PUBLISHED BY THE
ASIATIC SOCIETY, 57, PARK STREET.
1899.

the 1990s, the number of people in the United States who are 65 years of age or older is projected to increase from 20 million to 30 million, and the number of people 75 years of age or older is projected to increase from 10 million to 15 million (U.S. Census Bureau, 1996).

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PROCEEDINGS
OF THE
ASIATIC SOCIETY OF BENGAL,
FOR JANUARY, 1898.

The Monthly General Meeting of the Asiatic Society of Bengal was held on Wednesday, the 5th January, 1898, at 9 P.M.

DR. A. F. R. HOERNLE, C.I.E., President in the chair.

The following members were present :—

Dr. A. Alcock, Dr. T. Bloch, F. Finn, Esq., The Revd. H. B. Hyde, H. H. Hayden, Esq., Kumār Rāmēçvar Māliā, J. Mann, Esq., R. D. Mehta, Esq., L. de Nicéville, Esq., A. T. Pringle, Esq., F. J. Rowe, Esq., Bābu Yadunāth Sēn, M. S. Seth, Esq., Paṇḍit Haraprasād Çāstri, C. Saunders, Esq., Dr. G. Watt, C.I.E.

Visitors :—B. Aitken, Esq., W. K. Dods, Esq., Professor S. Levi, R. G. Monteath, Esq., M. R. Mehta, Esq., W. H. Wood, Esq., Bābu Surēndranāth Vasu.

The minutes of the last meeting were read and confirmed.

Forty-one presentations were announced, details of which are given in the Library List appended.

The following gentlemen duly proposed and seconded at the last meeting of the Society were ballotted for and elected ordinary members :—

W. K. Dods, Esq.

Captain P. R. T. Gurdon.

The following gentlemen are candidates for election at the next meeting :—

The Revd. J. Watt, proposed by Dr. G. Watt, seconded by C. Little, Esq.

David Hooper, Esq., F.C.S., F.I.C., F.L.S., proposed by Dr. A. Alcock, seconded by F. Finn, Esq.

Bābu Amṛtalāl Vasu, proposed by Paṇḍit Mahēndra Nāth Vidyānidhi, seconded by Dr. Amṛtalāl Sarkār.

E. B. Havell, Esq., Principal, Calcutta School of Art, proposed by Dr. A. F. R. Hoernle, seconded by Dr. A. Alcock.

The PRESIDENT announced that the Council had elected Mr. G. W. Küchler as Treasurer of the Society in the place of Mr. C. Little, resigned.

The PRESIDENT announced that he had received five essays in competition for the Elliott Prize for Scientific Researches for the year 1897.

Surgeon-Major A. Alcock exhibited some remarkable Deep Sea animals, and made the following remarks on their distribution:—

The three specimens which I am exhibiting this evening are:—

(1). A *Macrurus* fish (*Macrurus—Mystacourus—cavernosus*, Goode and Bean) belonging to the same order as the Cod-fishes.

(2). A blind deep-sea Lobster (*Phoberus cæcus*, A. M. Edw.), and

(3). A gigantic deep sea Isopod Crustacean (*Bathynomus giganteus*, A. M. Edw.).

In exhibiting them, what I wish to draw attention to is, not the numerous peculiarities of their structure, but the peculiarity of their Geographical Distribution.

The fish (*Mystacourus cavernosus*) was first discovered by the U. S. Survey Steamer "Albatross" in the Gulf of Mexico at a depth of 227 fathoms.

The Lobster (*Phoberus cæcus*) was first discovered by the U. S. Survey Steamer "Blake," off the Antilles at a depth of about 416 fms.

The Isopod (*Bathynomus giganteus*) was first discovered by the "Blake" at a depth of about 955 fathoms, also in the Gulf of Mexico.

Now the point that I think sufficiently remarkable for relation to this meeting is that these three animals (belonging to three different Orders and two different Phyla of the Animal Kingdom) first found in the depths of the Gulf of Mexico, are only elsewhere known to occur in Indian waters.

It is true that a form very closely related to, and perhaps identical with, *Phoberus cæcus*, was dredged by the "Challenger," at a depth of 800 fathoms, in the enclosed sea south of New Guinea, but that sea, as well as the Java seas and the Andaman sea, all belong to one and the same zoological region with the seas of India. So that if all three forms, instead of only one of them, were known to exist near New Guinea, the peculiarity of their distribution would hardly be affected.

Now, how can the very curious distribution of these animals be explained?

The most obvious explanation is that as they all belong to the Deep Sea Fauna, they may be expected to have an almost unlimited range. It has been fairly well established that the animals that inhabit the depths of the ocean all live under almost uniform conditions, and that therefore there is no limit to their range from one unbroken ocean-bed to another.

Numerous instances of deep-sea animals that have such an unlimited range are known; but as I prefer to confine myself to species that have been taken in Indian Seas and that, therefore, can be shown to you, I will only mention the following examples, specimens of which are here exhibited:—

Bathyactis symmetrica (Pourtales) a Fungid coral which according to the late Professor Moseley is “apparently universally distributed in deep-water.”

Porcellanaster cæruleus, Wy. Thoms., a Starfish common to the depths of the North Atlantic and of the Andaman Sea.

Freyella benthophila, Sladen, a Starfish common to the depths of the Pacific and Bay of Bengal.

Poromya tornata, Jeff., a Lamellibranch mollusk common to the depths of the Atlantic and of the Bay of Bengal.

Puncturella asturiana, Fisch., a Gastropod mollusk common to the depths of the West Indies, of the Bay of Biscay, and of the Laccadive Sea.

Calocaris macandrewæ, Bell, a little crustacean distantly related to the Lobsters, which has been found in the northern recesses of the Irish Sea, in Scandinavian deep-waters, in the Gulf of St. Laurence, off the coast of New Zealand and off the Laccadive Islands.

Parapagurus abyssorum, a Hermit crab that has been found all over the Atlantic and Pacific Oceans at great depths.

Macrurus laevis, a fish related to the Cod-fishes, whose range includes the Scandinavian, Irish and Mediterranean Seas, the depths off the coast of Brazil, and the Laccadive and Andaman Seas.

Now it is quite possible, and even probable, that in the discovery of the Gulf of Mexico species *Macrurus cavernosus*, *Bathynomus giganteus* and *Phoberus cæcus* in Indian Seas, we have merely another illustration of the wide range of species modified for life under deep sea conditions; but there is another possible explanation that should not be lost sight of.

In the Quarterly Journal of the Geological Society for August 1895 (Vol. LI. No. 203) Dr. J. W. Gregory adduces several telling

arguments, based principally upon the affinities of the fossil corals of Barbadoes with the fossil corals of the Mediterranean basin and with corals still living in the Red Sea and Indian Ocean, in support of the view that, in or shortly before Miocene times, a Mediterranean Sea extended from America eastwards, and included both the present Caribbean and Mediterranean basins. In this Mediterranean Sea, the present North and South Atlantic Oceans were represented by bays running north and south.

Now is it possible that *Phoberus*, *Bathynomus*, and *Mystaconurus cavernosus* are remnants of the deep fauna of this sea? The question seems to be a not unreasonable one, especially as it is strengthened by the curious distribution of some other forms of which specimens are exhibited here to-night. These are:—

1. *Diplacanthopoma brachysoma*, a fish distantly related to the Cod-fishes, which is only known to occur (a) off Pernambuco (at the north-east angle of Brazil) in 350 fms., and (b) in the Andaman Sea in 490 fms.

2. *Flabellum laciniatum*, a Turbinolid coral which has been found living (a) in the Norwegian and North Atlantic Seas, and (b) off the east and west coasts of India at 400 to 700 fathoms. This species is also fossil in the (Pliocene) deposits of the Mediterranean basin.

The following papers were read:—

1. *Two copper-plate grants of Ratnapāla of Pragjyōtiṣa in Āsām.*—
By DR. A. F. R. HOERNLE, C.I.E.

The paper will be published in the *Journal*, Part I.

2. *On the seasonal change of plumage in the Male of the Purple Honey-sucker (Arachnecthra asiatica), and of an analogous American Bird, the Yellow-winged Sugar-bird (Coereba cyanea) with Exhibition of Specimens.*—By F. FINN, B.A., F.Z.S., Deputy Superintendent of the Indian Museum.

The paper will be published in the *Journal*, Part II.

3. *On a Rain-ceremony from the District of Murshedabad, Bengal.*—
By ÇARAT CANDRA MITRA, M.A., B.L., Corresponding Member of the Anthropological Society of Bombay. Communicated by the Anthropological Secretary.

The paper will be published in the *Journal*, Part III.

4. *On a Fragment of a Manuscript of Aryadeva's Work from Nepal.*—
By PAṆDIT HARAPRASAD ÇASTRI, M.A.

The paper will be published in the *Journal*, Part I.

5. *Note on the Long-snouted Whip-snake, with Exhibition of Specimen and Drawing.*—By F. FINN, B.A., F.Z.S., Deputy Superintendent of the Indian Museum.

The paper will be published in the *Journal*, Part II.

6. *On Taboo and customs connected therewith amongst the Santals.*—By THE REV. P. O. BODDING, Mohulpahari, Santal Parganas.

ABSTRACT.

The custom of tabooing certain names, animals, things, etc., is found amongst the Santals.

Names are tabooed in the following cases: certain brothers and sisters-in-law, viz., (1) a man and his younger brother's wife, (2) a man and his wife's younger brother's wife, (3) a woman and her younger sister's husband, and (4) a woman and her younger brother's wife; and husband and wife are prohibited from mentioning each other's names, not only when they are speaking to or of each other, but always when they may have to mention these particular names.

The custom is very strictly observed, the breaking of it being—so far as regards brothers and sisters-in-law—considered a great sin, which the Santals believe will be punished both in this world and the next.

The manner in which they seek to avoid naming these particular names is curious and fanciful; as far as can now be ascertained the custom has not, however, had any influence on the vocabulary of the Santal language; a result of this custom is, that the Santals very frequently get second names,—although not from this cause only,—and these second names are then constantly used.

The Santals consider this custom as a special manner for the relations mentioned *honoring* each other, that is to say, they are to consider each other as sacrosanct, and according to their notions the custom is also mutual honoring; but as certain other relations between whom an analogous honoring should be expected, do not observe this custom, it seems clear, that this peculiar honoring has a deeper cause.

Besides not naming each other's names these brothers and sisters-in-law have various rules imposed on them which all are to prevent these relations from seeing each other in any too familiar position and from indulging in any familiarity towards each other, i.e., to prevent them from being tempted to sexual sin with respect to each other.

Now the Santals buy their wives, and the wife is the property of her husband. As will be shown in the paper, there are many circumstances which seem to indicate, that the tabooing of names between these brothers and sisters-in-law, and all customs imposed on them in order to

prevent any kind of familiarity between them, have as their ultimate cause a wish to protect the weaker relation and his property from being encroached on, or to protect the rights of the first buyer uninfringed.

As far as regards husband and wife, the custom of tabooing each other's names seems to be of another nature than with the relations just mentioned. The Santals feel the difference themselves and describe it negatively by saying, that if husband and wife break the custom it is only dishonoring each other, but if the other relatives break it, it is sin. The custom is most likely meant for honoring, but it may be, that in this instance it has originally been borrowed from the Hindoo custom, that a wife is prohibited from naming the name of her husband, the peculiar social and family position of a Santal wife having caused the custom to be made obligatory for the husband also.

Besides the tabooing of names mentioned, the Santals in some cases taboo the animals, plants, things, etc., i.e., the totems which have given names to their septs and subsepts; they are prohibited from killing, eating, carrying, cutting or in some way or other using them.

Further, almost all sacrifices are taboo for the women who are in most cases forbidden even to eat the flesh of the sacrificed animals. Men of other totems are also prohibited from eating the flesh of sacrifices offered to the different totemistic gods or spirits.

The sacred trees of the holy grove are taboo for all women, and women belonging to other households are prohibited from entering the *bhitar*, a small closet found inside every Santal dwelling house, where offerings are made to the ancestors.

The paper will be published in full, in *Journal*, Part III.

7. *Note on the Occurrence in India of the Dwarf Goose (Anser erythropus) with Exhibition of living Specimen.*—By F. FINN, B.A., F.Z.S., Deputy Superintendent of the Indian Museum.

The Goose which I have the honour of exhibiting to the Society tonight is a very rare visitor to India, no instance of its occurrence within our limits having apparently been recorded since the publication of Mr. Hume's "Game Birds and Wildfowl" nearly twenty years ago; and even in that work less than a dozen specimens are mentioned as having been obtained up to date.

I was therefore very pleased at being able to secure, on New Year's Day, the bird I now exhibit, together with two others, which are at present in the Duck House at the Alipore Zoological Gardens. The specimens were obtained from a bird-dealer in the Provision Bazaar who constantly imports birds from up country; I have since heard that these came from somewhere in the direction of Rawal Pindi. The

vendor, who was well aware of the value of the birds, said that these were the first which had been sent to Calcutta.

All these birds (they appear to be a male and two females) are adult and in good condition, the plumage being perfect except the primary quills, which have been clipped. This is unfortunate, as it obscures the most notable structural feature of the species, which, although the smallest member of the genus *Anser*, as commonly restricted, has proportionally the longest wings.

The small size of these birds, however, and the extension of the white patch on the forehead up to the level of a line drawn between the eyes, will at once distinguish them from the White-fronted Goose (*Anser albifrons*) another rare Indian goose, and the only one with which the present species could possibly be confounded.

In the British Museum Catalogue of Birds, Vol. XXVII, in which the Ducks, &c., are treated by Count Salvadori, no difference in the colour of the "soft parts" between the Dwarf Goose and the White-fronted is mentioned. In the bird at present before us, however, it will be noticed that the bill is of a beautiful rose-pink, not orange, as is stated to be the case with the larger species; and the eyelids, of the colour of which nothing is said in the work referred to, are lemon-yellow. In its dark eyes and orange feet this bird agrees with the description of its larger relative.

The other two birds obtained have the soft parts similar, and as they are, as above stated, adult, this might be taken as the typical colouration for the species, were it not that the colour of the soft parts is known to be sometimes variable in geese of this genus.

The identity of the present specimen having been established, it will now rejoin its companions at the Zoological Gardens, and though the species has in summer a high northern range, it is to be hoped that these birds will thrive, since Bar-headed Geese (*Anser indicus*) which Mr. Hume found did not stand the hot weather very well in his experience, have nevertheless lived for years in the Alipore Collection in the same house in which the present birds will now replace them.

8. *Contributions from the Chemical Laboratory, Presidency College, Calcutta. On Double Bisulphate of Copper and Sodium.*—By CANDRA BHUŞAṆ BHĀDURI, B.A., and JYOTI BHUŞAṆ BHĀDURI, M.A., *Prēm Cāād, Roy Cāād Scholar. Communicated by ALEX. PEDLER, F.R.S.*

ABSTRACT.

The authors in this paper describe principally the yellow salt obtained by the action of sodium thiosulphate on copper sulphate or acetate, and find that its formula is $7\text{Cu}_2\text{S}_2\text{O}_3 \cdot 5\text{Na}_2\text{S}_2\text{O}_3 \cdot 8\text{H}_2\text{O}$ and not

$\text{Cu}_2\text{S}_2\text{O}_3$, $\text{Na}_2\text{S}_2\text{O}_3$, 2CuS : as given by Kessel. They also find that the above double thiosulphate when treated with caustic soda yields cuprous oxide, which again is soluble in excess of sodium thiosulphate. When this solution is boiled cuprous sulphide is precipitated. The acid cuprous thiosulphate could not be obtained by the action of sodium thiosulphate on a concentrated solution of copper sulphate as mentioned by Von Hauer.

The yellow salt described above dissolves easily in dilute hydrochloric acid. On adding concentrated hydrochloric acid or acetic acid to this solution, a perfectly white stable salt is obtained conforming to the formula $9\text{Cu}_2\text{S}_2\text{O}_3 \cdot 5\text{Na}_2\text{S}_2\text{O}_3 \cdot 8\text{NaCl} \cdot 12\text{H}_2\text{O}$ and not $3\text{Cu}_2\text{S}_2\text{O}_3 \cdot 2\text{Na}_2\text{S}_2\text{O}_3 \cdot 4\text{NaCl} \cdot 8\text{H}_2\text{O}$ as claimed by Siewert.

The authors also obtained a faintly yellowish white salt of the composition $\text{Cu}_2\text{S}_2\text{O}_3 \cdot \text{Na}_2\text{S}_2\text{O}_3 \cdot 2\frac{1}{2} \text{H}_2\text{O}$ by an altogether different method from that of Russel.

The paper will be published in full, in the *Journal*, Part II.

9. *An annotated List of the Butterflies of the Ké Isles.*—By LIONEL DE NICÉVILLE, F.E.S., C.M.Z.S., &c., and HEINRICH KÜHN.

The paper will be published in the *Journal*, Part II.

LIBRARY.

The following additions have been made to the Library since the meeting held in December last:—

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MISCELLANEOUS PRESENTATIONS.

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Annual Sanitary Report of the Central Provinces for the year 1896. Fcp. Nagpur, 1897.

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Report on the Land Revenue Administration of the Lower Provinces for the official year 1896-97. Fcp. Calcutta, 1897.

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Return showing (1) Particulars of the Protective Irrigation Works, which cost the State during the last 15 years Rx. 1,813,841; and (2) Particulars of the Protective Railways, on the construction of which Rx. 6,550,931 were expended during the same period, as stated in the fifth paragraph of the Financial Statement for 1897-98. Fcp. London, 1897.

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- . The Entomologist,—Vol. XXX, Nos. 412 and 413.
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PROCEEDINGS
OF THE
ASIATIC SOCIETY OF BENGAL,
FOR FEBRUARY, 1898.

The Annual Meeting of the Asiatic Society of Bengal was held on Wednesday, the 2nd February, 1898, at 9 P.M.

Dr. A. F. R. Hoernle, C.I.E., President, in the chair.

The following members were present :—

Dr. A. Alcock, Dr. T. Bloch, Bābu Annadaprasad Basu, Rai Bahadur Saratchandra Das, W. K. Dods, Esq., F. Finn, Esq., The Most Revd. Archbishop P. Goethals, J. N. Das Gupta, Esq., A. Hogg, Esq., G. W. Küchler, Esq., C. Little, Esq., J. Mann, Esq., R. D. Mehta, Esq., Bābu Pancānana Mukhopadhyaya, L. de Nicéville, Esq., J. D. Nimmo, Esq., A. T. Pringle, Esq., The Hon. Mr. H. H. Risley, F. J. Rowe, Esq., P. C. Roy, Esq., Paṇḍit Satyavrata Sāmaṅrami, Dr. J. Scully, Bābu Hera Lal Sen, Bābu Jadu Nath Sen, M. J. Seth, Esq., Mahamahopadhyaya Haraprasad Çāstri, Bābu Lakshminarain Singh, Bābu Nagēndra Nath Vasu, Paṇḍit Mahēndranath Vidyānidhi.

Visitors :—A. Caddy, Esq., E. B. Havell, Esq., M. R. Mehta, Esq., H. A. Stark, Esq., Bābu Surendra Nath Vasu, A. G. Westertout, Esq.

According to the Bye-laws of the Society, the President ordered the voting papers to be distributed for the election of Officers and Members of Council for 1898, and appointed Dr. G. Watt and Mr. J. Mann to be Scrutineers.

The President then called upon the Secretary to read the Annual Report.

ANNUAL REPORT FOR 1897.

The Council of the Asiatic Society have the honour to submit the following Report on the state and progress of the Society's affairs during the past year:—

Member List.

During the year under review, 16 Ordinary Members were elected, 12 withdrew, 7 died, 3 were removed from the list under Rule 40, being more than three years absent from India. There was thus a net loss of 6 Ordinary Members during the year. The total number of Members at the close of 1897, was 288, against 294 for the preceding year; of these 106 were Residents, 115 Non-Residents, 9 Foreign, 22 Life, 35 Absent from India and 1 Special Non-Subscribing Member, as will be seen from the following table, which also shows the fluctuations in the numbers of Ordinary Members during the past six years:—

YEAR.	PAYING.				NON-PAYING.				GRAND TOTAL.
	Resident.	Non-Resident.	Foreign.	Total.	Life.	Absent.	Special Non-Subscribing.	Total.	
1892	115	127	11	253	22	33	2	57	310
1893	116	123	12	251	22	33	2	57	308
1894	98	125	12	235	22	36	2	60	295
1895	108	122	12	242	23	31	1	55	297
1896	105	119	11	235	23	35	1	59	294
1897	106	115	9	230	22	35	1	58	288

The seven Ordinary Members, the loss of whom by death during the year we have to regret, were Nawab Sayid Asghar Ali Diler Jang Khan Bahadur, Sir Ananda Ram Gajapati, Prince Mahomed Firukh Shah, Mr. S. E. Peal, Raja Lachman Singh, Mr. W. T. Taylor and Captain E. Y. Watson.

The lists of Honorary Members, Special Honorary Centenary Members and Associate Members, continue unaltered from last year, there having been no casualties; their numbers stand at 24, 5, 10, respectively.

The names of Dr. J. Macgowan, Mr. A. Murray and the Rev. J. Porter were removed from the list of Corresponding Members, their addresses being long since unknown. Professor E. von Schlagintweit is now the only Corresponding Member of the Society.

No Members compounded for their subscriptions during the year.

Indian Museum.

No presentations were made over to the Indian Museum.

There were two changes among the Trustees caused by the resignations of Dr. D. D. Cunningham and Mr. C. Little, in consequence of their leaving India, and Mr. R. D. Oldham and Mr. G. W. Küchler were appointed to fill the vacant offices.

Finance.

The accounts of the Society are shown in Statement No. 1, in the Appendix, under the usual heads.

Statement No. 8 contains the Balance Sheet of the Society and of the different funds administered through it.

The Budget Estimate for 1897 was taken at the following figures :—
Receipts Rs. 17,800. Expenditure Rs. 16,700.

The actual results were found to be—Receipts Rs. 16,713-10-6 and Expenditure Rs. 20,130-11-8.

The receipts show a decrease of Rs. 1,086-5-6 while the expenditure shows an increase of Rs. 3,430-11-8 on the Budget Estimate.

As only 16 new members were elected during the year, there is a reduction of Rs. 744 under the head of receipts from "Subscriptions," "Sale of Publications" shows a slight decrease of Rs. 22-14-6. "Rent of Rooms" is also below the estimate by Rs. 400. This is due to the non-receipt of rent from the Photographic Society of India for four months.

On the Expenditure side, the items of "Postage," "Freight," "Contingencies," "Books," "Binding," "Journal Part I," "Journal Part II," "Proceedings," and "Circulars," show an increase. Owing to the purchase of paulins and providing the peons with new clothing for the cold weather there is an increase of Rs. 202-3-4 under the head of "Contingencies." "Books" were estimated at Rs. 1,500, whilst the expenditure was Rs. 3,284-3-11. This was expected, as the expenditure last year under "Books" was Rs. 564-5-0 only. A remittance of £100 was sent to Messrs. Luzac and Co. for books supplied and heavy local purchases of books were made during the year. "Journal," Part I, has exceeded the estimate by a large sum of Rs. 1,579-4-6. This heavy expenditure is due to the printing of an unusual number of plates and

for payment of Baptist Mission Press bills not presented during last year. "*Journal*," Part II, has exceeded the budget by a large sum of Rs. 1,408-2-6 which is accounted for by the printing charges of No. 1 of 1897 amounting to Rs. 1,476-9-6. The "*Proceedings*" also show an increase of Rs. 186-14-0 This is due to the payment of Baptist Mission Press bills not presented during last year. "*Circulars*," has exceeded the budget owing to the printing of Wilson's Descriptive Catalogue of Paintings, &c., in the Society's Rooms.

There were two items of extraordinary expenditure during 1897 not provided for in the Budget. Rs. 707-10-3 was remitted to Mr. C. J. Rodgers in part payment for preparing the Society's Coin Catalogue and Rs. 50-8-0 was spent for purchasing certain coins for the Society's Coin Cabinet.

The actual expenditure on the *Journal* and *Proceedings* was as follows:—

<i>Journal</i>	{ Part I ...	...	Rs. 3,679	4	6
	{ Part II ...	...	3,508	2	6
	{ Part III ...	...	699	2	6
<i>Proceedings</i>	...	...	1,186	14	0
			<hr/>		
			Total Rs.	9,073	7 6
			<hr/>		

against a budget provision of Rs. 8,200.

The Budget Estimate of probable ordinary Receipts and Expenditure for 1898 has been fixed as follows:—Receipts Rs. 17,700. Expenditure Rs. 16,682.

On the receipt side, the estimated income under the head of "*Rent of Rooms*" is increased by Rs. 400, as it is expected to receive this year the four months rent due by the Photographic Society of India.

"*Subscriptions*" has been slightly reduced taking into account the numbers of members elected last year. "*Interest on Investments*" has been reduced by Rs. 200, as during the year it will be necessary to sell off Government Securities to pay for Repairs of damages caused by the earthquake.

On the expenditure side, the changes in last year's estimate are small. "*Lighting*" has been increased by Rs. 22, as some gas bills of last year have not yet been presented for payment. "*Freight*" and "*Contingencies*" are based upon the actuals of the last year.

There will, however, be one extraordinary item of expenditure to be dealt with during the year 1898. Extensive repairs to the Society's buildings had to be undertaken during last year owing to damage caused by the earthquake.

The details of the Budget Estimate are as follows:—

Receipts.

Subscriptions	...	...	Rs. 7,000	0	0
Sale of Publications	...	...	600	0	0
Interest of Investments	...	...	5,500	0	0
Rent of Rooms	...	...	1,500	0	0
Government Allowances	...	...	3,000	0	0
Miscellaneous	...	...	100	0	0
			<hr/>		
Total	Rs.	17,700	0	0	
			<hr/>		

Expenditure.

Salaries	...	...	Rs. 3,500	0	0
Commission	...	...	400	0	0
Pension	...	...	52	0	0
Stationery	...	...	150	0	0
Lighting	...	...	70	0	0
Municipal Taxes	...	...	819	0	0
Postage	...	...	600	0	0
Freight	...	...	40	0	0
Meetings	...	...	80	0	0
Contingencies	...	...	200	0	0
Books	...	...	1,500	0	0
Local Periodicals	...	...	16	0	0
Binding	...	...	750	0	0
Journal, Part I	...	...	2,100	0	0
„ „ II	...	...	2,100	0	0
„ „ III	...	...	3,000	0	0
Proceedings	...	...	1,000	0	0
Printing Circulars, &c.	...	...	200	0	0
Registration Fee	...	...	5	0	0
Auditor's Fee	...	...	100	0	0
			<hr/>		
Total	Rs.	16,682	0	0	
			<hr/>		

Extraordinary Expenditure.

Repairs	...	...	5,528	0	0
			<hr/>		
Total	Rs.	22,210	0	0	
			<hr/>		

London Agency.

The number of copies of parts of the *Journal*, of the *Proceedings*, and of the *Bibliotheca Indica*, sent to Messrs. Luzac and Co., during the year 1897, for sale, were 715, 317, and 739, valued at £98-5-0 and £12-1-9, and Rs. 516 respectively. Other books were sent for sale amounting to £1-10-0.

Twelve invoices of books purchased and of publications of various Societies sent in exchange, were received during the year. The value of the books purchased amounted to £55-19-11.

Continental Agency.

The number of copies of parts of the *Journal*, of the *Proceedings* and of the *Bibliotheca Indica* sent to Mr. Otto Harrassowitz, the Society's Continental Agent, during 1897, for sale, were 40, 59 and 511 valued at £6-15-0, £2-18-0 and Rs. 295, respectively. Other books were sent for sale amounting to Rs. 13.

Library.

The total number of volumes, or parts of volumes added to the Library during the year was 2,713, of which 1,087 were purchased and 1,626 presented or received in exchange for the Society's publications.

In the report for 1894, it was stated that the books were being checked with the present catalogue. This work has been accomplished. The slips are now being arranged and it is hoped before the close of the year the new edition of the Society's Library Catalogue will be published.

Publications.

There were published during the year twelve numbers of the "*Proceedings*" (Nos. 7, 9 and 10 of 1896, and Nos. 1-9 of 1897), containing 239 pages of letter-press and 2 plates; six numbers of the "*Journal*," Part I (Nos. 3 and 4 of 1896, and Nos. 1-4 of 1897), containing 523 pages of letter-press and 51 plates; an Extra No. 3 of 1892 consisting of 121 pages of letter-press and 7 plates, being the completion of Major H. G. Raverty's *Mihrān of Sind and its Tributaries*; also another Extra No. of 1897 consisting of 74 pages of letter-press, being Shaw's *History of the Khōjas of Eastern-Turkistān summarised from the Tazhira-i-Khwājagān of Muḥammad Ṣādiq Kāshghari*, edited with Introduction and Notes by N. Elias; four numbers of the "*Journal*," Part II (No. 4 of 1896 and Nos. 1-3 of 1897) containing 634 pages of letter-press and 5 plates; a Special No., Part III for 1896, containing 113 pages of letter-press, being the Rev. M. A. Sherring's *Index to Hindu Tribes and*

Castes as represented in Benares. There were also published a Descriptive Catalogue of the Paintings, Statues, framed Printings, Copper-plates, etc., in the rooms of the Asiatic Society of Bengal, by Mr. C. R. Wilson, and the Index to *Journal*, Part II for 1896.

Barclay Memorial Medal.

The Sub-Committee appointed by the Council, framed rules on the subject of the award of the "Barclay Memorial Medal" which were printed in the Society's *Proceedings* for August 1897. Rs. 155 was spent for making a new reverse die and hardening, &c., the obverse die.

Coin Cabinet.

During the year 35 coins were added to the Cabinet, viz., two gold, three silver, twenty copper, and ten of mixed metal. Of these, 18 were purchased, while the rest were presented under the Treasure Trove Act; viz., 13 by the Government of Bombay, 3 by the Government of Bengal, and one by the Government of Burma. They comprise coins of the following classes: Kalinga (gold) 2, Bahmani (silver) one, Durrāni (silver) one, Gujarāt (copper) one, Ahmad Shāh one, Burmese (silver) symbolical, one; Gadhia (mixed) 10, Central Asian (copper) 18. The Kalinga gold coins are rare, and a description of them will be found in the Society's *Journal*, Part I for 1897, p. 144.

Office of Secretaries.

Dr. G. Ranking carried on the duties of the Philological Secretary till June, when he resigned, and Dr. T. Bloch was appointed. Dr. A. F. R. Hoernle edited the *Journal*, Part I, for the first two months, when Dr. Bloch was permanently appointed.

Mr. F. Finn carried on the duties of Natural History Secretary and Editor of the *Journal*, Part II, throughout the year, except for three months, from August to October, when Mr. L. de Nicéville officiated for him.

Mr. L. de Nicéville carried on the duties of the Anthropological Secretary and Editor of the *Journal*, Part III, throughout the year.

Mr. C. Little carried on the duties of Treasurer throughout the year.

Mr. C. R. Wilson carried on the duties of General Secretary and Editor of the *Proceedings* till the middle of April, when he left India on furlough, and Dr. A. R. S. Anderson was appointed to officiate for him. Dr. Anderson continued till the beginning of October, when he left Calcutta, and Dr. A. Alcock agreed to carry on the work till Mr. Wilson's return.

Mahāmahopādhyāya Haraprasād Chāstri was in charge of the *Bibliotheca Indica* and the search of Sanskrit Manuscripts and carried on the duties of Joint-Philological Secretary throughout the year.

Mr. J. H. Elliott continued Assistant Secretary and Librarian throughout the year.

Paṇḍit Harimohan Vidyābhūṣaṇa, the Paṇḍit of the Society, was allowed further leave, without pay, for one year from May, 1897, under the existing arrangements.

There were no other changes in the office establishment.

Bibliotheca Indica.

During the year 1897, twenty-eight fasciculi were published, of these 5 are in Arabic-Persian, 2 in Tibetan, and 21 in Sanskrit series. These belong to 19 different works of which 4 are in the Arabic Persian, 2 in Tibetan and 13 in Sanskrit.

The editing charges of 28 and the printing charges of 23 fasciculi were paid, the average approximate cost of each fasciculus being Rupees 404. The normal number the fund can publish is 24; this year it has published four too many. A large balance Rs. (11,000) is still in hand, and greater activity should be shown in the current year, in order that the balance may be exhausted.

The following is a descriptive catalogue of the works published during the year :—

(A) Arabic-Persian Series.

1. *Akbarnāmah* on the life of the Great Mughal-Emperor Akbar by his distinguished friend and Minister Abul-Fazl. H. Beveridge, Esq., our late President, has undertaken an English translation of this work with copious illustrative notes. One fasciculus only has been published.

2. *Al-Muquaddasi* is a work on the geography of the Muhammadan world in the 4th Century of Hijirāh. An English translation of this important work has been taken up by Surgeon-Major Dr. G. Ranking. One fasciculus only has been published.

3. The translation of the first volume of the *Muntakhabu-t-twarikh* was sanctioned along with that of the second volume. The second volume has been completed, but the first was not even taken in hand. In 1896, Dr. Ranking was entrusted with the work. He published two fasciculi in 1896, and he has published two more in 1897, Fascs. III and IV.

4. The English translation of *The Tabaqāt-i-Nāsiri* was published long ago, under the editorship of Mr. Raverty, but there was no index to that work. An index has now been published under the direction of the Council.

(B) Sanskrit Series.

1. *Aitareya Brāhmaṇa*, next to the Ṛg Veda, the most ancient work of the Hindus has been completed under the editorship of Paṇḍit

Satyavrata Sāmaṅgrāmī, a distinguished Vedic scholar who has done much for the spread of vaidik scholarship in modern times. The edition is accompanied with Sāyana's Commentary. Three fasciculi have been published during the year, namely Fascs. I, II and III of the last volume. Indices only remain to be done.

2. *Aṣu-bhāṣya*, a commentary on the Vedānta aphorisms by Balla-bhācāryya who flourished in Guzerat in the sixteenth century has been completed (indices excepted) under the editorship of Paṇḍit Hemacandra Vidyārātva, the Upācāryya of the Ādi Brāhma-Samāja. The fourth and the fifth fasciculi were published during the year.

3. *Āpastamba Ārauta-Sūtras* under the editorship of Dr. Richard Garbe of Tübingen has advanced by one fasciculus only, namely, the fourteenth.

4. *Brhad-dharma-Purāṇa* under the editorship of Paṇḍit Hara-prasād Ḍāstri has advanced by one fasciculus only, namely, the sixth. The work has come nearly to a close.

5. *Kālariveka* by Jimūtavāhana, the author of the Dāyabhāga, a Bengal Brāhmaṇa of the twelfth century on the subject of the determination of the proper time for domestic and other rites, was taken up during the year by Mahāmahopādhyāya Madhusūdana Smṛtirātna, late Professor of Smṛti in the Sanskrit College, Calcutta, and two fasciculi have been published.

6. The English translation with notes of the *Mārkaṇḍeya Purāṇa* by Mr. Pargiter, C.S., has advanced by one fasciculus only, namely, the fifth.

7. *Nyāyavārtika* by Udyotakara on Vātsyāyana's bhāṣya commentary of the Nyāya aphorisms has advanced by one fasciculus only under the editorship of Paṇḍit Vindhyeṣvariprasād Dube of Benares. The third Adhyāya of the work has been completed in this fasciculus and there has been subjoined in the form of an appendix, a short but very important work on the Nyāya Aphorisms and their text by the celebrated Vācaspati Miśra entitled Nyāya-sūci-nibandha.

8. *Parāṣara Smṛti* was completed two years ago by Mahāmahopādhyāya Candra Kānta Tarkālaṅkāra. One fasciculus of the index has appeared this year.

9. The English translation of the *Suśruta Saṁhitā*, the great Medical work of the Hindus, was undertaken by the late lamented Dr. U. C. Datta, who published two fasciculi only. On his death the work was offered to many, at last Dr. A. F. R. Hoernle took up the work during the year under review and has published the first fasciculus only.

10. The *Ārauta-Sūtra* of Sāṁkhāyana has advanced by one fasciculus only, the fourth of the third Volume. This completes the commentary of all the sixteen Chapters of the original.

11. *Taittiriya Samhitā*, the Samhitā of the Black-Yajur Veda was undertaken in the year 1860. It changed hands several times and is now under the editorship of Paṇḍit Satyavarta Sāmaçramī. The Text and the Commentary have been completed. The indices yet remain to be done.

12. *Tattva Cintāmaṇi*, the Standard work of the Naiyāyikas of the Bengal School has advanced by three fasciculi, namely, Part IV, Vol. I, Fasc. V, and Part IV, Vol. II, Fascs. I and II.

13. *Tulsi Satsai*, edited with a short Commentary by Paṇḍit Vihārīlāl Chaube has been completed with a table of contents and a Hindi preface, Fasc. V.

(C) Tibetan Series.

1. Two fasciculi of the Sher Phyin or the Tibetan translation of the *Çatasāhasrikā Prajñāpāramitā* has been published by Babu Pratāpa Candra Ghoṣa being fasciculi III and IV of the third volume.

2. The *Avadāna-Kalpalatā* with its Tibetan translation under the joint editorship of Rāy Çarat Candra Dās, C. I. E., and Paṇḍit Hari-mohan Vidyābhūṣaṇa has advanced by one fasciculus only, namely, Vol. II, Fasc. V.

ABSTRACT OF PROCEEDINGS OF COUNCIL DURING 1897.

January 29th, Ordinary Meeting.

Permission was granted to the Manager, Indian Art College, Calcutta, to print and publish selected papers from the "*Asiatic Researches*" which were now out of print, and they were asked to present two copies to the Library of the Asiatic Society of Bengal.

On an application from the Librarian, Berlin Anthropological Society, an offer was made of the Society's *Proceedings* and *Journal*, Parts I and III, in exchange for their "Verhandlungen."

On the representation of the Master, Her Majesty's Mint, Calcutta, it was ordered that the original die of the Barclay Memorial Medal should be hardened and polished. If it cracked, the Society was willing to bear the cost of Rs. 100 for a new die.

The application from Maulvie Mirza Ashraf Ali, soliciting permission to prepare Indexes to Vols. I-III of the *Iqābah*, was referred to the Philological Committee.

A letter from the Honorary Secretary, Buddhist Text Society, proposing the affiliation of the Buddhist Text Society, with the Asiatic Society of Bengal, together with a memorandum by Dr. Hoernle suggesting a scheme, were ordered to be circulated to the Members of Council.

The Budget of the expenses of the *Bibliotheca Indica*, drawn up by the Philological Committee for the year 1897, was approved.

The names of the Rev. J. Porter, Mr. A. Murray and Dr. J. Macgowan, Corresponding Members of the Society, were struck off from the list of members, their addresses being long since unknown.

It was agreed to announce at the next General Meeting of the Society that the Barclay Memorial Medal would be given for the most important piece of work done in research in Zoology or Botany specially relating to India during 1897.

Dr. Ranking was asked to make arrangements for the preparation of an Index to Low's Translation of the *Badāoni*, Vol. II, at the usual rate.

The annual increment of the Assistant Secretary of the Society was recorded.

On the recommendation of the Philological Secretary, a fee of Rs. 3-0-0 per page for translating and editing *Al-Muqaddasi's* work "*Aḥsanu-l-tāgāsim*" was agreed to.

The purchase of a copy of I-tsing Buddhist Religion as practised in India and the Malay Archipelago, was approved.

Copies of the life of Lord Clyde, and life of Sir Hope Grant, were ordered for the Society's Library.

February 25th, Ordinary Meeting.

On an application from the Chief Librarian, Royal University of Upsala, asking to be supplied with a long list of *Bibliotheca Indica* wanting in their set, and of the back volumes of the Society's *Journal*, Part III and *Proceedings*, it was ordered to give them as many numbers of the *Bibliotheca Indica* of both series as are available according to the rules, also to complete the Society's *Journal*, Part III and the *Proceedings*.

The Librarian of the Johns Hopkins University was supplied with five fasciculi of the "*Aitareya Āraṇyaka*" wanting in their set.

Dr. Ranking was allowed at the rate of Rs. 3-0-0 a page instead of the sanctioned rate of Rs. 2-0-0 a page for the translation of *Badāoni*, Vols. I and III.

A letter from the Master, Her Majesty's Mint, Calcutta, stating that the obverse die of the Barclay Memorial Medal had been hardened and polished and forwarding a specimen in tin struck from it, was recorded.

With reference to the affiliation of the Buddhist Text Society with the Asiatic Society of Bengal, it was resolved that the Finance Committee should be first consulted and asked to ascertain—

- (1). The Financial position of the Buddhist Text Society.
- (2). If the Government of Bengal was willing to continue the annual grant of Rs. 2,000 to the Asiatic Society of Bengal.

and that the General Secretary should ascertain if the Buddhist Text Society was willing to sink its identity in the Asiatic Society of Bengal.

On an application from the Baptist Mission Press, asking for a revision of the rates charged by them for the Society's publications, they were offered Rs. 3 a page for the *Journal* and *Proceedings* with annas 8 extra for articles of exceptional difficulty.

The appointment of Dr. Bloch as a member of Council and Editor of the Society's *Journal*, Part I, was recorded and ordered to be reported to the next General Meeting.

The names of the various Committees for the ensuing year were ordered to be read at the General Meeting.

On the recommendation of Dr. Hoernle, the purchase of several books for the Society's Library was approved.

The purchase of several books for the Society's Library was approved.

On the recommendation of the Secretary, several books were ordered to be purchased for the Society's Library.

April 1st, Ordinary Meeting.

On the recommendation of the Philological Secretary, certain manuscripts were ordered to be purchased from Mirza Mahomed Shirāzi of Bombay for the Society's Library.

A letter from the President, Royal Society, London, stating that at a representative meeting of the Presidents of Scientific Societies in London, it was unanimously resolved to form a Fund to be called the Victoria Research Fund and to be administered by representatives of the various Scientific Societies for the encouragement of research in all Branches of Sciences, and asking whether the proposal met with the acceptance of the Asiatic Society of Bengal, was ordered to be read at the General Meeting with a recommendation that the proposal be accepted.

At the suggestion of Dr. Hoernle, it was agreed to subscribe for a copy of the *Asiatic Quarterly Review* from 1897. The back numbers were also ordered to be purchased for the Society's Library.

On the recommendation of Dr. Hoernle, the purchase of a copy of Poulton's Charles Darwin and the Theory of Natural Selection, for the Society's Library was approved.

On the resignation of Dr. D. D. Cunningham as a Member of Council and of the Trusteeship of the Indian Museum on behalf of the Society, Dr. D. Prain was asked to serve as a Member of Council, and Mr. R. D. Oldham was appointed to the vacant Trusteeship in the Indian Museum.

It was ordered to sell Government Securities to pay off the bill for Rs. 155 for making a new reverse die and hardening, &c., the obverse die for the Barclay Memorial Medal.

The Superintendent, Baptist Mission Press, was informed in reply to a letter on the subject of rates for printing the Society's publications, that on further consideration, the Council was willing to accept the original terms, viz., Rs. 3-8 a page for *Journal* and *Proceedings* and annas 8 extra a page for articles of exceptional difficulty.

In reply to a letter from Lieutenant Eldrid Pottinger, asking if the Society was willing to reconsider the question of making a grant towards re-embursing him for part of the "out of pocket" expenses which he would incur in his journey of exploration to the sources of the Irrawaddy, in the event of his journey being successful, he was informed that the Council in the event of his journey being successful, were prepared to re-consider the question of a grant towards re-embursing parts of his "out of pocket" expenses, and would also be glad to be furnished on his return with any original information he may have gained of Ethnological or other Scientific interest.

On the recommendation of the Library Committee, long lists of books were purchased from Messrs. Thacker, Spink and Co., Col. J. Waterhouse, Messrs. Cambrey and Co., and Messrs. Bannerjee and Co., for the Society's Library.

The Secretary, Buddhist Text Society was informed, in reply to a letter on the subject of the affiliation of the Buddhist Text Society with the Asiatic Society of Bengal, that the Council could not see its way to agree to the proposed affiliation.

Messrs. Meugens, King and Simson were asked to audit the accounts for 1896.

Paṇḍit Harimohun Vidyābhūṣaṇa, the Paṇḍit of the Society, was granted further leave of one year from May 1897.

The Sub-Committee for the Total Eclipse of the sun of January, 1898, submitted proceedings of two meetings, one on the 20th April, 1896, and another on the 31st March, 1897. At the first meeting the following were the Proceedings:—

I. Read a letter from General J. F. Tennant to Col. Waterhouse, and a note by Bābu Pratāpa Candra Ghoṣa.

Order.

(a) A large map should be made showing in detail the path of the moon's shadow during the Total Eclipse of the Sun, January 21st, 22nd, 1898.

(b) A list should be made of the most accessible stations situated on the path of the shadow.

(c) A short meteorological description of the different localities should be prepared showing what spots are to be avoided as likely to be cloudy.

(d) A note should be prepared as to facilities for getting skilled labour in the neighbourhood and accommodation for the observers. Probably many parties will have to camp out, and arrangements will have to be made for this.

(e) Write to the Government of India, Railway Department, asking what arrangements the Indian Railways will be disposed to make for the transport of observers with their instruments and other appliances.

(f) Write to the Government of India, Military Department, asking whether the Military Department would be able to lend tents to parties camping out.

(g) Write to the Governments of Bombay, Central Provinces, North-Western Provinces, and Bengal, asking what assistance they could give to observing parties.

(h) Notify to the Secretary of the Joint Committee of the Royal Society and Royal Astronomical Society what the Asiatic Society of Bengal propose doing, and ask if they can suggest anything further in which the Asiatic Society may be of use.

II. Resolved that Professor C. Michie-Smith, Mr. J. H. Gilliland and the Rev. Father A. de Peneranda be added to the Sub-Committee.

Order. Send them copies of these proceedings.

At the second meeting the following were the Proceedings:—

The Secretary reported that all the recommendations of the Sub-Committee made at the meeting of 20th April, 1896, had been carried out, and that he had forwarded the information collected to the Secretaries of the Joint Committee of the Royal Society and the Royal Astronomical Society.

Order. Report to the Council, also report the replies of the Secretaries, when received.

Resolved that Col. G. Strahan, R. E., Dehra Dun, Major-General C. Strahan, R. E., Surveyor-General of India, Dr. A. R. S. Anderson, Mr. G. W. Kuchler and the very Rev. Father E. Lafont be invited to join the Committee.

The Proceedings were recorded.

The appointment of Dr. Anderson to officiate as General Secretary in the place of Mr. Wilson proceeding to Europe on furlough for 7 months was approved and ordered to be announced at the General Meeting.

With reference to Council order, dated 28th February, 1895, permit-

ting Rai Bahadur Sarat Chandra Das, an associate member, to take out books, &c., from the Society's Library as allowed to a full member, he was informed that the Council found that they could not under the rules continue to permit him to take out books unless he became an Ordinary Member.

April 29th, Ordinary Meeting.

A letter from the Secretary, Joint Permanent Eclipse Committee of the Royal Society, and Royal Astronomical Society, London, conveying their thanks to the Society for the valuable information contained in the Meteorological Note and copies of Correspondence on the subject of the Total Eclipse of the Sun of January, 1898, was recorded.

Dr. D. Prain being unable to accept a seat on the Council, it was approved, at the President's proposal, to ask the Hon. Mr. H. H. Risley to join the Council.

A letter from the Assistant Secretary, Government of India, Home Department, stating that the Governor-General in Council was pleased to withdraw the conditions imposed in Home letter No. 448 of the 9th September, 1882, under which copies of parliamentary papers and returns relating to India were at present supplied to the Asiatic Society of Bengal and to regard the past Blue Books as the property of the Society, was recorded.

250 copies of the Descriptive Catalogue of the Paintings, &c., in the Society's Rooms were ordered to be printed.

On the recommendation of the President, a copy of William Ramsay's Gases of the Atmosphere, the History of their Discovery, was ordered to be purchased for the Society's Library.

The purchase of a copy of the Interchangeable Index book and 500 slips, for numismatic purposes, was recorded.

On the recommendation of the Anthropological Secretary, a copy of Hamilton's Art and Workmanship of the Maori Race in New Zealand, was ordered to be purchased for the Society's Library.

May, 27th, Ordinary Meeting.

It was agreed to purchase the manuscript of "Diwani Buba Fughani of Shiraz," and a work entitled "Miratul Tarikh" from Munshi Jwala Nath Pandit of Calcutta for the Society's Library.

The acceptance by the Hon'ble Mr. H. H. Risley of a seat on the Council of the Society was recorded.

The resignation of Colonel J. Waterhouse of the offices of Vice-President and Member of Council of the Society was recorded.

Read a letter from the Chief Secretary to the Government of

Bengal, enquiring if there was any objection to Rai Sarat Chandra Das and his two assistants, named Pandit Sarat Chandra Shastri and Satis Chandra Vidyabhushan using the *Bibliotheca Indica* series and the Oriental Manuscripts, Tibetan, Sanskrit, Nepalese, &c., in the Society's Rooms during office hours. It was resolved that the letter be formally acknowledged and the Chief Secretary be informed as follows :—

(1) That the permission now sought for was accorded on the 28th February, 1895, to Rai Sarat Chandra Das Bahadur and his assistants, but that the permission was withdrawn owing to complaint having been made of the disorderly conduct and disregard of the authority of the officials of the Society by the Pandits of the Rai Bahadur.

(2) In granting the permission, the Council acted under no written rule of the Society, but in accordance with the unwritten rule of all learned Societies to render every assistance in their power to earnest students, whether Members of the Society or not; a rule which carries with it the reciprocal obligation of good behaviour on the part of those to whom the assistance is extended.

(3) The Council, finding this obligation unrecognised and disregarded, and being unable to formally impose conditions, found themselves compelled to withdraw the privileges formerly granted.

(4) So far from wishing to oppose the progress of Rai Sarat Chandra Das Bahadur's work or that of any other, the Council has appointed a Committee with instructions to draft regulations under which persons other than Members of the Society may be permitted to consult books and manuscripts in the Society's Library.

Mr. H. B. Perie was granted Rs. 50 instead of Rs. 25 for revising the Index to Sherring's Hindu Castes and Tribes.

July 1st, Ordinary Meeting.

On the recommendation of the Natural History Secretary, an exchange of the Society's *Journal*, Part II, and *Proceedings* for the Report of the G. V. Juggarow Observatory, Vizagapatam, was sanctioned.

The resignation of Dr. Ranking of the Philological Secretaryship of the Society was accepted, and Dr. Bloch was asked if he would accept the Philological Secretaryship.

On an application from the Superintendent, Baptist Mission Press, it was agreed to allow the press to charge for any work done that may be stopped for a period of six months.

On an application from Mrs. A. S. Beveridge on the subject of the publication of a Persian manuscript of a memoir of Bābar and Humāyun written by Gulbadan Begum with English Notes in the

Bibliotheca Indica, it was ordered to ask Mr. Beveridge for a translation with notes for publication in the *Journal* of the Society.

On an application from Mirza Ashraf Ali, it was agreed to prepare the Indexes to Vols. I-III of the "Isabah."

Mr. F. E. Pargiter and Dr. Ranking were informed that Dr. Grierson had been appointed to represent the Asiatic Society of Bengal at the International Congress of Orientalists at Paris in next September.

Messrs. Luzac & Co. were informed in reply to their letter on the subject of a trade discount of 25 per cent. to Booksellers for purchasing the Society's publications, that the Council resolved to stick to the existing arrangement.

The prices of the Index to the English Translation of the *Tabaqat-i-Nasiri* in two parts and *Kāçmiri Grammar*, Part I, were fixed at Re. 1 and Re. 1-8-0 respectively.

July 29th, Ordinary Meeting.

The acceptance by Dr. Bloch of the office of Philological Secretaryship of the Society was recorded.

On the recommendation of Paṇḍit Mahēndra Nāth Vidyānidhi several books were ordered to be purchased for the Society's Library.

The purchase of a copy of Cole's Santali Primer, for the Society's Library was sanctioned.

Mr. de Nicéville was asked to act for Mr. Finn as Natural History Secretary for three months.

August 26th, Ordinary Meeting.

The presentation of Verbeek and Fennema's *Description Geologique de Java et Madoura*, Vols. I-II, with atlas by the Director of the Department of Instruction, Public Worship and Industry at Batavia forwarded by the Consul for the Netherlands, was accepted with thanks.

At the suggestion of Dr. Grierson to distribute his edition of *Kāçmiri Grammar*, gratis, to those persons to whom the *Bibliotheca Indica* were presented, it was ordered to give 30 copies to Dr. Grierson and free copies to all public bodies on the distribution list of the *Journal*, Asiatic Society of Bengal.

The acceptance of Mr. de Nicéville to officiate for Mr. Finn as Natural History Secretary of the Society, was recorded.

At the request of Mr. C. J. Rodgers asking for payment of Rs. 1,062-8-0 being the balance due for cataloguing the Society's coins, it was ordered to pay him Rs. 700 on account and the balance on completion of the final proof.

Messrs. Mackintosh, Burn and Co.'s approximate estimate of Rs. 5,340-3-6 being cost of repairing damage caused by the earthquake to the Society's buildings was accepted, and they were asked if the skylight over staircase could be altered and to submit plans for altering the same.

Mr. Charles Saunders was elected a Member of the Society.

On a note by the President on the subject of the draft Rules under which persons other than Members of the Society may be permitted to consult books and manuscripts in the Society's Library, Rai Surat Chandra Das was informed that the Council were willing to favourably consider his request to work in the Asiatic Society's Library, but that he must first return to the Library all the books and manuscripts in his possession belonging to the Library, so that the matter may be disposed of at the next Council Meeting.

Certain books were purchased for the Society's Library.

September 23rd, Ordinary Meeting.

A letter from Rai Bahadur Sarat Chandra Das stating that he will settle the question of books and manuscripts out with him when he returned to Calcutta in December next, was recorded.

Paṇḍit Satyavrata Sāmaṅramī was supplied at his request with notices of Sanskrit manuscripts from Vols. I to X, Part I.

Babu Sarat Chandra Mitra was elected an Ordinary Member of the Society.

A letter from the President on the subject of Archæological exploration in the Nepal Terai, was recorded.

A copy of Abel-Remusat's History of Khoten (in French) was ordered for the Society's Library.

The selling price of Mr. Wilson's Descriptive Catalogue of the Paintings, Statues, framed Prints, Copper-plates, &c., in the rooms of the Asiatic Society of Bengal was fixed at Re. 1 per copy.

October 28th, Ordinary Meeting.

On an application from the Meteorological Reporter to the Government of India, an exchange of the Society's *Proceedings* and *Journal*, Part II for the publication of the Meteorological Department was sanctioned. It was ordered to send them the back numbers as far as could be managed.

The thanks of the Council were conveyed to Dr. Grierson for his brief account of the *Proceedings* of the International Congress of Orientalists held at Paris in last September, and he was informed that his report would be laid before next General Meeting and printed in the *Proceedings*.

A copy of Cave's Ruined Cities of Ceylon was ordered for the Society's Library.

Dr. Anderson having left Calcutta, Dr. Alcock agreed to carry on the duties of the General Secretary till Mr. Wilson's return.

November 25th, Ordinary Meeting.

A letter from the President, Bikanir Agency on the subject of the loan of certain manuscripts, was recorded.

With reference to a letter from Mr. Oldham, tendering his resignation of the office of Trusteeship of the Indian Museum on behalf of the Society, it was resolved to thank Mr. Oldham for his past services, and to request him to kindly re-consider his resignation as the Council did not consider it absolutely necessary that he should give his *continuous* attendance at Trustees' Meetings.

At the suggestion of the President, it was ordered to send for a copy of Lane-Poole Stanley's Catalogue of the collection of Arabic coins preserved in the Khedivial Library at Cairo, for the Society's Library.

Lieutenant Eldrid Pottinger was informed in reply to a letter forwarding a paper on certain Tribes in Burma, &c., and asking the Council to re-consider the question of a grant towards expenses of his journey, that the Society while sympathising with the unsuccessful issue of his journey of exploration, were unable to re-consider the question of a grant but as regards his paper the Society were willing to publish it if he submitted it independent of all other questions.

Mr. Finn having resumed charge of his duties as Natural History Secretary from Mr. de Nicéville, the change was ordered to be reported at the next General Meeting.

On the report of the Librarian regarding certain Library Books out with Mr. G. W. Forrest, it was ordered that the return of the books be insisted on.

December 30th, Ordinary Meeting.

A letter from Mr. Oldham expressing willingness to continue in the office of Trusteeship of the Indian Museum on behalf of the Society was recorded.

On the resignation of Mr. Little of the offices of Treasurer and Trusteeship of the Indian Museum on behalf of the Society, it was resolved to accept Mr. Little's resignation with great regret and to intimate the cordial thanks of the Council for his long continued services both as Honorary Treasurer and Trustee. It was ordered to ask M. G. W. Kuchler to act as Treasurer till the election in February.

Mr. Küchler was also elected a Trustee in the place of Mr. Little resigned.

On the recommendation of the Council, the meeting day was changed to Friday instead of Thursday.

Copies of Boulger's Central Asian Question, Hellwald's Russians in Central Asia, and Bonvalot's Through the Heart of Asia, were purchased for the Society's Library.

At the suggestion of the Secretary, the two Travelling Pandits in search of Sanskrit Manuscripts were allowed travelling allowance as per Travelling Allowance Code and not double Intermediate Railway fare.

The Report having been read, the President invited its acceptance.

Mr. R. D. Mehta proposed and Mahamahopadhyaya Haraprasad Cāstri seconded that the Report be approved.

Mr. C. Little proposed as an amendment "but that the Council arrange during the coming year to prevent expenditure on the Journals exceeding the amount allowed by the Society in the estimates and report at the next annual meeting."

Mr. F. J. Rowe seconded the amendment, which was carried by a majority of one (eleven against ten).

The President then announced that the Trustees of the "Elliott Prize for Scientific Research" had awarded the prize for the year 1897 to Bābu Sarasi Lal Sarkar, and laid on the table the following

REPORT ON THE "ELLIOTT PRIZE FOR SCIENTIFIC RESEARCH" FOR 1897.

The Trustees have received Essays from the following competitors for the prize:—

1. *"An Investigation of the Properties of Numbers: and on Some Propositions relating to the Theories of Congruences and of Quadratic Residues."*—By SARASI LAL SARKAR, M.A.

2. *The Theory of the Half-tone dot.*—By UPENDRAKISOR ROY CHOWDHURY, B.A.

3. *Stylography of the English Language.*—By BROJONATH SHAHA, L.M.S.

4. *An improvement of the New Method of solving Quartics by Radicals, published in the Calcutta University Magazine, June, 1896.*—By NRIPENDRA NATH CHATTERJI.

5. *Bhuvanesa Yantra Prakas.*—By LAL TRILOKINATH SINGH.

The Trustees, after consulting experts as provided in the scheme, adjudge the prize for the year 1897 to Bābu Sarasi Lal Sarkar, M.A.

	E. J. TREVELYAN, <i>Vice-Chancellor, Calcutta University.</i>	} Trustees.
	C. A. MARTIN, <i>Director of Public Instruction, Bengal.</i>	
CALCUTTA :	A. F. R. HOERNLE,	
2nd February, 1898. }	<i>President, Asiatic Society of Bengal.</i>	

The President then addressed the meeting.

ANNUAL ADDRESS, 1898.

GENTLEMEN,

I now rise to deliver the usual annual address. I confess that when you did me the honour, last year, of nominating me to the post of President of your Society, it was the prospect that I should have to deliver such an address which made me hesitate before I accepted your honouring proposal. Looking over the annual addresses delivered within the last ten years, I notice that they have been gradually growing to very large dimensions. The last two addresses occupy respectively, in print, 154 and 170 of the pages of our Proceedings. The thought that possibly it might be expected of me to "break this record" caused me many misgivings, because I felt that I lacked both the ability and the leisure to do so. Indeed I felt rather inclined at one time to initiate a new departure by returning to the previous long-prevailing custom of the President making only a few brief observations on the past year's proceedings of the Society. But my courage failed me; I felt I must leave it to some one of greater weight than myself to make the change; but I cannot help thinking that a return to the old practice would be wise in the interests of the Society. At this, the busiest time of the year, there should be no stumbling-block put in the way of those whom we desire to take upon themselves the responsible post of President of our Society.

There are two preliminary remarks which I wish to make. One refers to the Report of the Council which has just been read. You will have observed that we close our accounts with a deficit of Rs. 3,417-1-2. This is a rather serious matter, considering that the regular condition

of our finances is that our income just about balances our expenditure. The deficit has been due to two co-operating causes: a decrease in our receipts and an increase in our expenditure. The main cause of the former is the reduction of Rs. 744 under the head of subscriptions from members. Only sixteen new members joined the Society during the past year. It seems to me a cause of much regret that the Society does not receive as much support as it deserves, especially from some of the scientific departments. I would earnestly impress upon our members the necessity of increasing the resources of the Society by inducing larger accessions to our numbers. The main cause of the increase in our expenditure has been the extraordinary cost of publishing our Journal Parts I. and II. In Part I. eight numbers (including Extras) have been issued instead of the usual four, and in Part II. one number, an important one, was unusually large. From one point of view, of course, this activity is very satisfactory; but it caused the budget allowance to be exceeded by nearly Rs. 3,000. I trust that our Secretaries, who so ably edit our Journals, will see the necessity of endeavouring in the ensuing year to keep within the limits of their allowances. There is a very special reason for the practice of economy. In company with the rest of Calcutta our Society suffered heavily in the late earthquake. Our premises were severely damaged, and we had to incur a heavy bill for repairs done by Messrs. Macintosh Burn & Co. This bill, amounting to upwards of Rs. 5,500, will have to be paid in the course of the year, and a strong effort must be made to meet it without crippling the resources of the Society. As one means of doing so I would suggest the advisability of selling some of our oil-paintings. There are among them, I understand, a few of considerable value, one, for example, of a rural scene by the younger Morland. Such a disposal of them, I venture to think, would be not only in the interests of the Society, but also of the pictures themselves, the proper preservation of which, in the Calcutta climate, is a matter of great difficulty.

The other point concerns a duty which it gives me very great pleasure to discharge. It is to remind you of the valuable services of our officers given by them to the Society voluntarily and at the sacrifice of their private time and leisure. Mr. C. R. Wilson was our General Secretary till the middle of April, when he was succeeded first by Dr. A. R. S. Anderson and afterwards by Dr. A. W. Alcock. Dr. Ranking acted as our Philological Secretary till June, when he left Calcutta on leave, and Dr. Bloch was appointed. Mahamahopādhyaya Hara Prasād Shāstri carried on the duties of Joint-Philological Secretary throughout the year; so did Mr. F. Finn and Mr. L. de Nicéville those

of Natural History Secretary and Anthropological Secretary respectively. Mr. C. Little continued our Treasurer for another year with conspicuous zeal. To all these gentlemen I desire to offer my warm acknowledgments for the help afforded me in presiding over the affairs of the Society, and I would also ask you to pass a cordial vote of thanks for their services to the Society during the past year.

In thinking over what I should make the subject of my annual address to you, it has occurred to me that perhaps I might be able to say something that would interest you and at the same time not take up too much of your time, if I were to confine myself to those departments of research in which I have been to some extent a worker myself, and to review the period from 1883 up to this year. I have chosen this period, both because it is characterised by special progress in those departments, and because the preceding period of one hundred years was reviewed by me in 1883 in the Centenary Review. The departments I refer to are those of the History and Literature of Jainism and Buddhism, and of Indian Archæology and Epigraphy. To these I will add some account of the recent Ethnographic and Linguistic Surveys, as well as of the History of Old Calcutta.

Jainism and Buddhism.—A very great advance, during the period under review, has been made with respect to our knowledge of JAINISM. Jainism is the great Indian rival of Buddhism, and is as ancient an institution as the latter, though until quite recent years its very existence before the middle ages was denied by the learned world, and even at the present time, by the side of the world-wide fame of its illustrious rival, it is hardly more than a name to the general public. It owes in the main its rehabilitation as one of the most ancient monastic organizations of India to the researches of Professor Jacobi, which were seconded by Hofrath Prof. Bühler, myself, and others.¹ The results of these may be thus summarised.

The founder of Jainism is commonly known by the title of Mahāvira, under which he is usually referred to in the sacred books of the Jains. His personal name, however, was Vardhamāna. In the books of the rival Order of the Buddhists, he is designated the Nātaputta, i.e., "the son of the chief of the Nāta clan of Kṣatriyas." For like Buddha, Mahāvira was of high aristocratic descent, the son

¹ For detailed information see Prof. Jacobi's Translations of the *Ācārāṅga* and *Kalpa Sūtras* (1884), and the *Uttarādhyayana* and *Sūtrakṛtāṅga Sūtras* (1895), Prof. Bühler's *Indian Sect of the Jains* (1887), and my own Translation of the *Upāsakadaśa Sūtra* (1888); also Prof. Jacobi's *Kalpa Sūtra*, published in 1879, and a paper of his on the *Origin of the Quēṭāmbara and Digāmbara Sects* in the *Journal of the German Oriental Society*, Vol. XXXVIII, 1884.

of a Rājā or petty king. His father Siddhārtha was the head of a Kṣatriya clan, the so-called Nātas or Nāyas, who were settled in the suburb Kollāga of the once flourishing town of Vaiçālī, whence it is that Mahāvira is occasionally designated the Vēsāliya or "the man of Vaiçālī." Vaiçālī is the modern Bēsāṛh, about 27 miles north of Patna. Anciently it consisted of three distinct portions, called Vaiçālī, Kuṇḍagāma and Vāṇiyagāma, and forming, in the main, the quarters inhabited by the Brāhman, Kṣatriya and Baniyā castes respectively. At the present day it has entirely disappeared, but the sites of its three component parts are still marked by the villages of Bēsāṛh, Basukuṇḍ and Baniyā. While it existed, it had a curious political constitution; it was an oligarchic republic; its government was vested in a Senate, composed of the heads of the resident Kṣatriya clans, and presided over by an officer who had the title of King and was assisted by a Viceroy and a Commander-in-Chief. Siddhārtha was married to Triçalā, who was a daughter of Cēṭaka, the then governing King of the republic. From her Mahāvira was born in or about 599 B. C., and he was, therefore, a very highly connected personage. This accounts for the fact that, like his rival Buddha, in the earlier years of his ministry, he addressed himself chiefly to the members of the aristocracy and to his fellow castemen, the Kṣatriyas. He married, and his wife Yaçodā bore him a daughter Anojjā who was married to Jamālī, a fellow nobleman and, later on, one of his followers. He seems to have lived in the parental house, till his father died, and his elder brother Nandivardhana succeeded to what principality they owned. Then at the age of thirty, he, with the consent of the head of his house, entered the spiritual career, which in India, just as in Europe, offered a field for the ambition of younger sons. In Kollāga, the Nāya clan kept up a religious establishment, doubtless similar to those still existing in the present day. There is one, near Calcutta, in the Maniktola suburb, which is probably known to most of us. Such establishments consist of a park or garden, enclosing a temple and rows of cells for the accommodation of monks, sometimes also a stūpa or sepulchral monument. The whole complex is not unusually called a Caitya, though this is strictly only the name of the shrine within it. The Caitya of the Nāya clan was called Duipalāsa, and it was kept up for the accommodation of the monks of Pārçvanātha's order, to whom the Nāya clan professed allegiance.

Mahāvira, on adopting the monk's vocation, would naturally retire to the Duipalāsa Caitya and join the Order of Pārçvanātha. But the observances of that order do not seem to have satisfied his notions of stringency, one of the cardinal points of which was absolute nudity.

So after a trial of one year, he separated, and discarding his clothes, wandered about the country of North and South Bihār, even as far as modern Rājmahal. Considering his tenet of absolute nudity, it is no wonder that it took twelve years before he succeeded in gaining a following that acknowledged his divine mission. It was now that he obtained the title of Mahāvira or 'Great Hero,' and was acknowledged to be a Jina and Kṣvalin, i.e., a holy and omniscient person. It is his title of Jina or 'Spiritual Conqueror,' from which the names Jainism and Jain, by which his system and his sect are now generally known, are derived; and it is Mahāvira's initial connection with Pārçvanātha's order which accounts for the fact that the latter saint is reckoned in the Jain hierarchy as the immediate predecessor of Mahāvira, and that his image is set up in so many Jain temples. The famous sacred hill of Pārçvanātha (or Paresnāth, as it is commonly called) with its Jain temples also takes its name from him. The last thirty years of his life Mahāvira passed in teaching his religious system and organising his order of ascetics, which was patronised chiefly by those princes with whom he was related through his mother, the kings of Vidēha, Magadha and Anga, i.e., those of North and South Bihār. In the towns and villages which lay in these parts he spent almost the whole period of his ministry, though he extended his travels as far north as Çrāvastī, near the Nepalese frontier, and perhaps as far south as the Puresnāth hill. The area of his ministry, therefore, practically coincides with that of his great contemporary Buddha. His life on the whole, was an uneventful one. With Buddha, who, as we now see, was his most formidable rival, he does not appear to have come into any prominent conflict. The Jain sacred books hardly notice him. On the other hand, they tell us of a fierce hostility between Mahāvira and another great spiritual chief of those days. This was Gōsāla, the son of a Mankhali or beggar, who had set up as the head of a section of the Ājivika order of monks, an order which at that time and for some subsequent centuries was so important as to be mentioned in one of Açōka's pillar edicts about 234 B.C., but which has long since ceased to exist. This Gōsāla appears to have been the first who attached himself to Mahāvira when the latter commenced his naked peregrinations. But after following Mahāvira for six years, he quarrelled with his master, and set up as a chief of ascetics himself, and that, two years earlier than Mahāvira himself ventured to do. This conduct naturally enough explains the intense hostility of Mahāvira, who resented the presumption of his former disciple in taking precedence of his master.³ Besides Gōsāla, the apostate, Mahāvira had

³ I should mention that Prof. Jacobi holds a slightly different view of Gosāla's position. According to him Gosāla and Mahāvira were two independent sect

eleven chief disciples, who all remained true to him, and who are said to have, between them, instructed 4,200 Āraṃas or monks; but only one of them, named Sudharman, survived his master, and it is through him that Jainism has been continued to the present day. Mahāvira died in the seventy-second year of his life, in the small town of Pāvā, in the Patna district, which is still considered one of the most sacred spots by the Jains. The traditional dates of his birth and death are 599 B.C. and 527 B.C. As modern research has shown they cannot be far wrong. The corresponding dates for Buddha, who lived to the age of eighty, are 557 and 477 B.C. It is certain that the two men were contemporaries, and that Mahāvira died some years before Buddha. The former, like his great contemporary, must have been an eminently impressive personality. This accounts for his great success as a sect founder. He certainly succeeded in eventually bringing over to his way of thinking the whole order of Pārçvanātha, so that the name of Nirgrantha or "one without any ties," which originally belonged to that order, attached itself to the order of Mahāvira. The only essential point of difference between them was the question of wearing a modicum of clothes. The followers of Pārçvanātha appear to have yielded that point for a time. The difference, however, being one on a point of the merest decency, necessarily continued to subsist in a dormant state, till a few centuries later it woke up again and, as we shall see further on, led to the great division of the Jain order into the Āvātāmbaras and Digambaras or the 'White-clothed' and 'Unclothed ones.' The term Nirgrantha or Nigāṇṭha, indeed, was the name by which the Jains were originally known. They are mentioned under that name in the same pillar edict of Aśoka, about 234 B. C., which, as I have already remarked, also names the Ājivika monks; and it remained their name for many centuries afterwards, for Hiuen Tsiang, in the seventh century A.D., still knows them under no other name. How it came to fall into disuse, and to give place to the comparatively modern name Jain has not yet been explained.

I will notice, in passing, the coincidence between Christ and Mahāvira with respect to the number twelve of their disciples which in either case includes an apostate. An interdependence of Christianity and Jainism, I believe, has never been seriously propounded, as has been done in the case of Buddhism with respect to similar coincidences. Such coincidences are apt to be urged too far; and

founders, who only associated for six years with the intention of combining their sects and fusing them into one; but that at last they quarrelled, probably on the question who was to be the leader of the united sect; and thus their bitter hostility is accounted for.

the instance I have noted is an instructive one in that respect: isolated coincidences possess very little evidential force.⁸ With regard to Buddhism and Jainism there are numerous coincidences in smaller details between the lives and doctrines of Buddha and Mahāvira; and this circumstance was long considered a good reason for discrediting the story of the latter and of the early existence of the Jain sect. But the sketch of Mahāvira's life which I have given above shows that in the main it was entirely different from Buddha's.

Before touching on the alleged doctrinal and ceremonial coincidences, it may be well to point out that neither Buddhism nor Jainism are religions in the strict sense of that word. They are rather monastic organizations. They are orders of begging fraternities, in many respects similar to the Dominicans and Franciscans among ourselves. Both were founded at the end of the sixth and beginning of the fifth centuries B.C. That period was a very active one in Northern India with respect to religious matters. The times were rife with religious movements. Many monastic orders sprung up: Buddhism and Jainism were only two among them, though they were the most important and most enduring. A third contemporary order, that of the Ājivikas, which only enjoyed a transitory existence, has been already mentioned by me incidentally. It must not be thought, however, that the institution of monasticism was any innovation on the existing religious conditions of the country. That institute formed an essential part of the original Brahmanism. The old Brahmanic religion ordained man's life to be spent in four consecutive stages, called Āśramas. A man was to commence life as a religious student, then to proceed to be a householder, next to go into retirement as an anchorite, and finally to spend the declining years of his life as a wandering Sanyāsin or mendicant. These Sanyāsins or Brahmanic mendicants form the prototype of the great monastic orders that arose in the sixth century B.C., the only difference apparently being that the Brahmanic mendicants never formed themselves into such large organisations as the Buddhists and Jains. The rules and observances which were prescribed for the former were either adopted or imitated by the latter. It is this circumstance which explains most of the coincidences that have been noticed between the Buddhists and Jains: they followed the same model. Thus to mention but one striking example, the rule of *ahimsā* or 'respect for life' which forms such a prominent feature in Buddhism and even more so in Jainism, is one which was binding on all Brahmanic mendicants. In course of time a tendency arose in Brahmanism to limit the entry into the stage

⁸ For another curious coincidence, relating to the parable of the Three Merchants, see Jacobi's Translation of the Uttarādhyayana Sūtra, p. 29.

of a mendicant to persons of the Brahman caste. It is probably this circumstance which first led to the formation of non-brahmanic orders such as those of the Buddhists and Jains, which were chiefly and originally intended for persons of the second or Kṣatriya caste, though eventually other caste-men were also admitted. It is easy to understand that these non-brahmanic orders would not be looked upon by the Sanyāsins as quite their equals, even when they were quite as orthodox as themselves, and on the other hand that this treatment by the Brahmanic ascetics would beget in their rivals a tendency to dissent and even to opposition. Thus the Buddhists and Jains were not only led to discard the performance of religious ceremonies which was also done by the Brahmanic mendicants, but to go further and even discontinue the reading of the Vēdas. It was this latter practice which really forced them outside the pale of Brahmanism. The still very prevalent notion that Buddhism and Jainism were reformatory movements, and that, more especially, they represented a revolt against the tyranny of caste, is quite erroneous. They were only a protest against the caste exclusiveness of the Brahmanic ascetics; but caste as such, and as existing outside their orders, was fully acknowledged by them. Even inside their orders, admission, though professedly open to all, was practically limited to the higher castes. It is also significant for the attitude of these orders to the Brahmanic institutions of the country, that though in spiritual matters their so-called lay-adherents were bound to their guidance, yet with regard to ceremonies, such as those of birth, marriage and death, they had to look for service to their old Brahmanic priests. The Buddhist or Jain monk functionated as the spiritual director to their respective lay communities, but the Brahmans were their priests.

It will thus be seen that the points of resemblance, undoubtedly existing between the orders of the Buddhists and Jains, are the natural result of the surrounding conditions under which they both arose and lived. Their points of difference are numerous, both in regard to doctrine and practice. They are so many, and often so minute and technical, that it would be difficult for me to render them intelligible within a small compass; nor would such an exposition be of any general interest. Those whom it may interest, will find the subject fully and ably discussed by Professor Jacobi in the Introductions to his Translations (see footnote, on p. 3). I may mention, however, two points which I believe have not been elsewhere noticed, but which, to my mind, very clearly bring out the extreme difference in the character and practice of the two orders. There is a celebrated term common to both the Buddhists and Jains: the term *tri-ratna* or "the three jewels." With the former

these are Buddha, the Law and the Order; but with the latter they are Right faith, Right cognition, and Right conduct. These mottoes, as we might call them, of the two orders are significant. That of the Buddhists refers to concrete, that of the Jains to abstract things. The former shows that Buddhism was animated by a practical and active spirit, while the latter shows Jainism to have been speculative and uninteresting. The history of the two orders proves this inference. While Buddhism, with its active missionary spirit, spread far and wide beyond the borders of India, and outgrowing the narrow bounds of a mere monastic order developed into popular religions in Ceylon, Burma, Tibet and other lands, Jainism always lived a quiet, unobtrusive life within the borders of India, travelling but little, if at all, beyond them. Again, the term applied collectively to the order both by the Buddhists and Jains was *sangha* or "the Order." But the Jains qualified it by the addition of the further term *caturvidha* or "four-fold." With them the monastic order included four classes of persons: monks, nuns, lay-brothers and lay-sisters. With the Buddhists the order included only two classes: monks and nuns; their lay-adherents stood in no essential or organic connection with them. It is obvious that no order of mendicant monks could possibly maintain its existence without some sort of relation to the surrounding secular community. It must of necessity depend for its sustenance and support on those within that community who, out of reverence for the Order, supported it with their alms. But the two orders observed a very different policy towards their respective lay-adherents. With the Buddhists they had no part and parcel in the monastic organization. They were not formally admitted into communion with the order, they had not to take any vows, there were no rules to regulate their position or conduct, no regular devotional services were held for them, neither was there any formal exclusion of any unworthy lay-person; in fact, the position of the lay-adherents was so loose and informal that a lay-adherent of the Buddhist order might at the same time be also an adherent of another order; there were no rules prohibiting such an anomalous position. The proud feeling of being a member of Buddha's great order and partaking of its spiritual benefits was not permitted to the Buddhist lay-adherent. Very different was the case of the Jain lay-adherent. His position was exactly the reverse in all the points just enumerated. He formed an integral part of the organization, and thus was made to feel that his interests were bound up with those of his order. In this matter Buddhism made a fatal mistake; for their treatment of their lay-adherents was one of the main causes of the eventual total disappearance of their order from

India, the land of their home. When in the course of time, in consequence of the change of religious tendencies which already began to operate in the seventh century A.D., at the time of the celebrated Chinese Buddhist pilgrim, Hiuen Tsiang, the recruitment of their order declined; and when, later on, the pressure of the spiritual opposition of the great Brahmanic orders, founded in the ninth century A.D. by Çaṅkarācārya and his disciples, increased; and when finally, in the twelfth and thirteenth centuries A.D., the storm of the iconoclastic Muhammadan conquest swept over India, and, as related in the histories of Tārānāth and Minhāju-d-dīn, inflicted wholesale massacre on the few still surviving monastic settlements, Buddhism simply collapsed; it utterly disappeared. Having maintained no inseparable bond with the broad strata of the secular life of the people, it had no chance of recruitment, it could neither maintain, nor recover itself. The lay-followers of Buddhism, having lost their monks to whom no paramount interest bound them, by a most natural process relapsed into Brahmanism, in which they again found, as they had done before the advent of Buddhism, not only their priests, but also their spiritual directors. Some small portions only of the former Buddhist laity, here and there, especially in Bengal, preferred to keep aloof, maintaining a caricatured form of Buddhism without Buddha and his Order, in which it is only with great difficulty that one can recognize the distorted traces of the once flourishing system of Buddha. The discovery of these caricatured survivals of Buddhism in Bengal is mainly due to the researches of our Joint-Philological Secretary, Pandit Hara Prasād Shāstri, who has unearthed them as it were in the followers of Dharma, one of the well-known units of the Buddhist Trinity, and published an account of them in the *Journal of our Society* for 1895. From them Dharmtolla Street takes its name, and their Dharma temple still stands in the modern Jaun Bazar Street.

Very different was the fate of Jainism which securely lived through the stormy times that shattered Buddhism. It has maintained itself quietly and unobtrusively to the present day; and its prospering monastic settlements and lay-communities are still to be found in Western and Southern India and Bengal; one of them we have close to our own doors, in the Maniktola suburb of this city. Jainism, indeed, is the only one of the almost primeval monastic orders of India which has survived down to the present day. But the history of an order of such a retiring character can necessarily offer but few points of general interest. There is really only one event in it which in its results obtrudes itself on the notice of the outside world. This is the great schism, which has been already alluded to, into the two divisions

of the *Çvētāmbaras* and *Digambaras*, the 'White-clothed' and the 'Unclothed' monks. The division took place, as indicated by the name, on the question of wearing clothes, though there are also other differences both in point of doctrine and practice, which, however, are of no general interest. The two divisions maintain an entirely separate and even antagonistic existence; they possess also almost entirely distinct literatures, and the most ancient class of sacred books, the so-called *Angas* and *Pūrvas*, have been preserved only in the *Çvētāmbara* division. Moreover both divisions are now divided into an extensive ramification of schools and lines of teachers, which gradually grew up in the course of centuries. The historical, or rather chronicling, spirit is as strongly developed in the Jains as it is in the Buddhists. They keep up regular *Paṭṭāvalis* or lists of the succession of teachers, several of which have been published by Hofrath Prof. Bühler, Dr. Klatt and myself in the *Indian Antiquary* and the *Epigraphia Indica*; and their sacred and other books are throughout interspersed with an abundance of chronicling notices, which have been extracted and recorded, in addition to the scholars already mentioned, by Professors Weber and Bhandarkar.⁴ From all these materials the Jain tradition regarding their Order and their Sacred Books may be gathered. In its main features it is as follows.

In the second century after Mahāvira's death (about 310 B.C.) a very severe famine, lasting twelve years, took place in the country of Magadha, the modern Bihār, beyond which, as yet, the Jain order does not seem to have spread. At that time Candra Gupta, of the Maurya dynasty, was king of the country, and Bhadrabāhu was the head of the still undivided Jain community. Under the pressure of the famine, Bhadrabāhu with a portion of his people emigrated into the *Karṇāṭa* (or Canarese) country in the south of India. Over the other portion that remained in Magadha, Sthūlabhadra assumed the headship. Towards the end of the famine, during the absence of Bhadrabāhu, a Council assembled at Pāṭaliputra, the modern Patna; and this Council collected the Jain sacred books, consisting of the eleven *Angas* and the fourteen *Pūrvas*, which latter are collectively called the twelfth *Anga*. The troubles that arose during the period of famine produced also a change in the practice of the Jains. The rule regarding the dress of the monks had been, that they should ordinarily go altogether naked, though the wearing of certain clothes appears to have been allowed to the weaker members of the order. Those monks that remained behind felt con-

⁴ See Prof. Weber's Catalogue of the Jain Manuscripts in Berlin, 1888 and 1892; also Prof. Bhandarkar's Report on the Search for Sanskrit MSS., 1883-84. For a fuller list, see Prof. Jacobi's Introduction to his Translation of *Jaina Sūtras*, Part II.

strained by the exigencies of the time to abandon the rule of nakedness, and to adopt the "white" dress. On the other hand, those who out of religious zeal chose to exile themselves rather than admit a change of the rule of nakedness, made that rule compulsory on all the members of their portion of the order. When on the restitution of peace and plenty, the exiles returned to their country, the divergence of practice, which had in the meantime fully established itself between the two parties, made itself too markedly felt to be overlooked. The returned exiles refused to hold fellowship any longer with the (in their opinion) peccant portion that had remained at home. Thus the foundation was laid of the division between the two sections of the Digambaras or naked ones and Āvētāmbaras or white-clothed ones. As a consequence of this difference, the Digambaras refused to acknowledge the collection of Sacred Books made by the Council of Pāṭaliputra; and they, therefore, declare that, for them, the Pūrvas and Aṅgas are lost. The difference, however, did not at once result in a definite schism: to this it does not appear to have come till a few centuries later, when the final separation took place in the year 79 or 82 A.D. On this point both sections are practically unanimous, their dates only differing by three years. At this time the Jain order had already spread far beyond the borders of its narrow home in Bihār, and ramified into numerous schools and subdivisions, some of which (as we shall presently see) possessed already flourishing settlements in Mathurā. It would seem that this spirit of expansion developed in the order principally in the time of Suhastin, who was the head of the Āvētāmbara section towards the end of the third century B.C.; for it is just under him that the Puṭṭāvalis record an extraordinarily large number of divisions and subdivisions. It is certain that about the middle of the second century B.C. the Jain order had spread as far as the Southern part of Orissa; for the Jains are referred to in Khāravēla's inscription on the Khaṇḍagiri rock, near Cuttack.

In the course of time the collection of sacred books, or Siddhānta as it is called by the Jains, which the Council of Pāṭaliputra had established, fell more or less into disorder. It even was in danger of becoming extinct, owing to the scarcity of manuscripts. It became, therefore, necessary to reduce it to order, and to fix it in an authorised edition of manuscript "books." This was done at a Council held in Vallabhi in Gujārāt, under the presidency of Dēvarddhi, the head of one of the principal schools.

It is clear from this tradition that the collection of the Jain sacred books, as preserved by the Āvētāmbara section of the community, goes back to the end of the fourth or the beginning of the third century

before the Christian era; for the Council of Pāṭaliputra which made the collection must have taken place about 300 B.C. The very process of a collection points to the fact of a previous existence; and the tradition of the Jains maintains that the Pūrvas, one of the two main divisions of the collection, were taught by Mahāvira himself to his immediate disciples, the so-called Gaṇadhara, and the latter composed the Aṅgas, the other main division. The name Pūrvā means an 'earlier' composition; and the Pūrvas were evidently called so because they existed prior to the Aṅgas. At the time of the Council of Pāṭaliputra a large portion of them, as the Jains themselves admit, had been already lost; and what still remained was then embodied in a twelfth Aṅga. The Jain traditions about these Pūrvas clearly point to the fact that there was once an original set of sacred books, the remains of which were, by the Pāṭaliputra Council, re-cast and collected in a new form, better adapted to the changed circumstances of the time.

Such is the tradition of the Jaina order with respect to its history and its sacred books. Until some thirty years ago, the prevalent disposition was to treat this tradition with great distrust. The presence of the strongly developed and curiously exact chronicling spirit, however, which I have already remarked on, as manifest throughout most of the literature of the Jains, lends but little support to that attitude; and this fact has been increasingly realised through the more intimate acquaintance with Jain literature which has been gained, during the period under review, through the publication of Jain books made by Professors Jacobi, Leumann, myself and others. Professor Jacobi, by a careful examination of the language and style of the Jain sacred books, which showed their very archaic character, contributed not a little to this result. Still so long as no independent and incontrovertible evidence could be brought forward in corroboration of the statements of the Jain tradition, no full conviction of the general reliability of it could be hoped for. The discovery of such independent corroborative evidence is the most striking feature of the period I am reviewing and is entirely due to the acumen of Hofrath Prof. Bühler of Vienna.⁵ On making a re-examination of certain inscriptions, found in 1871 by the late Major-General Sir A. Cunningham in the ruins of the Kaṅkhālī mound in Mathurā,⁶ Hofrath Bühler discovered among them some which made mention of several teachers and subdivisions of the Jains. Accordingly he arranged with Dr. J. Burgess, who was at that

⁵ His researches on this subject are contained in a series of papers published in the volumes of the *Vienna Oriental Journal* for 1887 to 1891 and 1896, and in the *Transactions of the Imperial Academy of Sciences in Vienna* for 1897.

⁶ See his *Survey Reports*, Vol. II.

time at the head of the Archæological Department, to make a thorough excavation of that mound. The work of excavation was carried out, under the superintendence of Dr. Führer, during the working seasons of 1889 to 1893, and again in 1896. An abundant yield of fresh inscriptions was obtained, impressions of all of which were sent to Hofrath Bühler. By him they were carefully examined, and a selection of the most valuable published, with facsimiles, in the Vienna Oriental Journal, as well as in the two first volumes of the *Epigraphia Indica*. What makes these inscriptions particularly valuable is the fact that many of them are dated in years of the Indo-Scythian era, that is, the era which was used by the Indo-Scythian kings Kanishka, Huvishka and Vasudēva. These kings flourished in the two first centuries of the Christian era, and their empire included North-Western India, as far down as Mathurā. The dates of the inscriptions range from the 5th to 98th year of that era, and are, according to the usually accepted interpretation, equivalent to A.D. 83-176. Accordingly they prove the existence of the Jain order in Mathurā at an as early a date as the first and second centuries of our era. Most of these inscriptions were found engraved on the pedestals of Jain statues, and recorded the dedication of these statues to some Jain temple by Jain laymen or laywomen under the direction of some Jain monk or nun, whose spiritual pedigree is carefully recorded. These dedications furnish corroborative evidence on many points of great interest.

In the first place, the divisions and subdivisions of the order to which the directing monk or nun are recorded to have belonged, strikingly agree with those, the existence of which in the first and second centuries of our era ~~are~~ also recorded in the Kalpasūtra and other books of the Jains. One of the Gaṇas or divisions which is most frequently mentioned is the Kauṭika, which was founded by Susthita, who was at the head of the order in the first half of the second century B.C. Moreover this division belonged to the Āvātāmbara section of the Jains. Thus we have here not only indirect evidence of the existence of the Āvātāmbara Jains in the middle of the second century before Christ, but also direct evidence of the spread of the Kauṭika division, in the first and second centuries A.D., as far as Mathurā, where, to judge from the frequent mention of their name in the inscriptions, they had a numerous and prosperous settlement. At that period there was also a Jain settlement in Bulandshahar, for the inscriptions also mention monks of a subdivision called after Uccanagara, or Varāṇa, both of which anciently were names of that town.

In the second place, the inscriptions prove the existence of Jain nuns as a regular part of the order; and they also show that these

nuns were very active in the interest of their faith, especially among the female members of the lay community, since in all cases, except one, laywomen dedicated images at the request of nuns. This fully agrees with the statements of the Jain scriptures. Moreover it affords an additional proof of the very early split of the order into the two sections of the *Āvātāmbaras* and *Digambaras*. For the latter do not admit nuns into the order; only the *Āvātāmbaras* do so. The inscriptions, therefore, prove that the Mathurā settlement was one of the *Āvātāmbara* section, and that the split of the order was already fully established in the first century of our era.

Another point clearly brought out by the inscriptions is the position of the lay element in the Jain community. I have already remarked that that element formed an integral part of the Jain organization, and shown the very important bearing of this point on the fortunes of the Jain order. The inscriptions apply to the laymen and laywomen the terms *Ārāvaka* and *Ārāvikā* respectively,—terms which have survived to the present day in the form of *Sārāogi* by which the Jain laity are often known. Among the Buddhists the term *Ārāvaka* is also used, but there it signifies an *Arhat*, that is a monk of a particular degree of sanctity. This circumstance not only marks the position of the lay element within the Jain order, but also brings out clearly an essential difference between the two great orders of Jains and Buddhists.

Again another point worthy of notice is that the inscriptions often mention the caste of Jain lay-people. I have already remarked how erroneous the idea is that Jainism or Buddhism intended to subvert the caste system. A lay convert to Jainism does not lose his caste by his conversion. He may have to give up the exercise of the trade of his caste, but if he wants a wife for himself or his son, or a husband for his daughter, he can only get them from his old caste. Thus one inscription records a donation by a layman of the *lohār* or smith's caste. He cannot have been a smith after his conversion, because Jainism forbids that trade to a layman. The reference, therefore, must be to the caste to which he or his ancestors belonged. It appears, however, from the inscriptions that even then, as in our days, most of the lay people belonged to the mercantile rather than the artificing classes.

I might mention many more points of detail in which the inscriptions discovered in Mathurā corroborate the statements of the Jain books; but I must refer those who may be interested in the subject, for further information to the papers themselves of Hofrath Prof. Bühler. There is one point, however, which I must not pass over. There is hardly another thing which has hitherto been considered a more characteristic external mark of Buddhism than the well-known Wheel and Stūpa

and their accessories. The late Pandit Bhagwanlal Indraji was the first to point out in 1883, in a paper on the Hathigumpha inscription, read before the Sixth International Congress of Orientalists at Leyden, that the Jains worshipped stūpas. But Hofrath Prof. Bühler's investigations have now fully proved that the hitherto accepted opinion about the Wheel and Stūpa must henceforth be relegated to the limbo of popular errors. The remnants of a Jain stūpa have been discovered at Mathurā. Indeed under the influence of the old error, it was at first thought that it must be Buddhist; but when ruins of two Jain temples were found in the closest proximity and all the other numerous evidences of Jainism, such as inscriptions and images of Jain saints, came to light, the true character of the stūpa as a Jain monument could no longer be doubted. This discovery has been confirmed by the discovery of sculptured slabs, on which Jain stūpas with all their accessories are fully represented, closely resembling those hitherto known to us as Buddhist. Hofrath Prof. Bühler has even gone further and shown that the building and worshipping of stūpas was an ancient practice common not only to the Buddhists and Jains, but also to other and even orthodox Brahmanic orders of ascetics. One of the most curious discoveries is an inscribed and sculptured slab, which formed the pedestal of a Jain statue. It shows the representation of a Wheel mounted on a trident, exactly in the same way as seen on Buddhist monuments, and proves that the celebrated Wheel is not a distinctive mark of the Buddhists. The inscription states that the statue was put up by a Jain lay-woman under the advice of her spiritual director, and the portrait-figures of these are sculptured on the slab in the act of worshipping the sacred symbol. The inscription further states that the statue was put up in a year probably corresponding to 157 A.D., at a votive stūpa which was built by the Gods. That phrase "built by the Gods" shows that the stūpa must have been an extremely ancient one, since in the second century A.D. its real origin had already been forgotten, and a myth did duty for historical truth. The conclusion is inevitable that the stūpa must have been erected several centuries earlier, and this is confirmed by a tradition which Hofrath Prof. Bühler has discovered in one of the Jain books.⁷ According to that tradition, the stūpa was still in existence in the middle of the ninth century A.D., when it underwent repairs, and was encased in stone. Originally it is said to have been built of bricks, and to have enshrined a gold casket dedicated to Pārṣvanātha. This gold casket had been brought, as it is said, by the gods to Mathurā, and was for a long time kept exposed to view for the worship of the Jains;

⁷ Jinaprabha's Tirthakalpa; see the Transactions of the Vienna Academy of Sciences, Vol. CXXXVII.

but afterwards, when one of the ancient kings of Mathurā attempted to appropriate it, a brick stūpa was built over it. This probably refers to the second century before Christ, when the Jains settled in Mathurā and when they may have brought the casket with them from Bihār : the king might be the Indo-Scythian Kanishka, who reigned about the commencement of our era.

While thus the period under review has been one of fundamental importance for our knowledge of the history of Jainism and its founder, it has not been altogether unfruitful with respect to the great rival organisation of Buddhism. The history, indeed, of that order and of its founder has long been well known, yet, curiously enough, until quite recently, none of the localities connected with the most important events in Buddha's personal history, such as his birth and death, had been identified. There was certainly one good reason for this curious circumstance ; for, as it now turns out, those localities are outside our borders, within the territory of Nepal, and therefore have been precluded from the search operations of our archæological surveys.

With the discoveries in this respect the name of one of the members of our Society, Dr. L. A. Waddell, the learned author of *Buddhism in Tibet*, is prominently connected. The zeal with which he has devoted a portion of his holidays and the opportunities afforded by official tours to the search for long lost Buddhist localities cannot be too highly praised. In 1891 he succeeded, on one of his tours, to discover near the village of Uren, in the district of Mungir, the site of the celebrated Hermitage of Buddha, where that saint is reported by Hiuen Tsiang to have rested for a season during the rains. The full details of this identification have been published by Dr. Waddell in our Journal.⁸ Subsequent researches enabled him to discover in the neighbourhood of Patna City what appears to be conclusive evidence of the exact position of the great emperor Aśoka's famous capital of Pāṭaliputra.⁹ The evidence thus furnished, in 1892, is at present being followed up, so far as financial considerations permit, by the Government of Bengal.

The most important discovery, however, to which his studies of old Buddhist history have led, is that of Buddha's birth-place in the neighbourhood of a small village called Niglivā. This is situated, just beyond the British frontiers, within the Nepalese Terai, about 20 miles north of the Chilliā Police Station in the Basti District. Rumours of the existence near that place of one or more inscribed pillars had been cur-

⁸ See Volume LXI, for 1892.

⁹ Published in his pamphlet on the *Discovery of the Exact Site of Aśoka's Classical Capital of Pāṭaliputra* ; 1892.

rent for many years. Mr. V. A. Smith had heard of one "a dozen years ago." But they took more definite shape in the spring of 1893 when a Nepalese Officer, Major Jashkaran Singh of Balrāmpur, saw and reported an Aṣōka pillar in the Terai. Through the information thus furnished Dr. Führer was enabled in March 1895 to visit the spot, and to find there, on the banks of the Nigāli Sāgar, a pillar, with an edict of king Aṣōka inscribed on it. This edict, when deciphered in April 1895 by Hofrath Prof. Bühler,¹⁰ proved that the ruins of a stūpa close by were those of the funeral monument of the mythical Buddha Kōṇagamana. Dr. Führer also noticed in the neighbourhood "vast ruins" which clearly pointed to the existence there of a large inhabited place in ancient days. A report of these discoveries was published by him in July 1895. As soon as Dr. Waddell, who had for some time made Hsien Tsiang's account of Buddha's birth-place a special study, read the newly-found edict, he at once saw the clue which it supplied towards fixing the site of that place in the neighbourhood of the Kōṇagamana stūpa and its pillar. He published his discovery in June 1896,¹¹ pointing out that, in accordance with the indication given by Hsien Tsiang, Kapilavastu, the birth-place of Buddha, must be within a few miles distance of Niglivā. Thereupon the Government of India was moved, both by Dr. Waddell and Dr. Führer, to obtain the permission of the Nepalese Darbar to explore the site thus indicated, in order to verify its being that of Kapilavastu. That permission having been secured, and Dr. Waddell's services not being available, Dr. Führer was deputed to carry out the desired verification. In November 1896 he proceeded to Niglivā, and finding that the Nepalese Government were not prepared to undertake excavations, he went on, south-eastward, to Bhagwānpur, where he had been told, in the previous year, of the existence of another inscribed pillar. He there found the looked-for pillar on the 1st December 1896, and upon it an inscription which identified the spot upon which it stood as the celebrated Garden of Lumbinī in which Buddha is said to have been born. Starting from this spot as a fixed point, Dr. Führer next discovered the ruins of Kapilavastu, at a distance of twelve miles north-west of it, and five miles west of Niglivā. This places Kapilavastu practically at the point indicated for it by Dr. Waddell.¹² It still remains to explore the site of that celebrated town, and to excavate its more prominent ruins. This is a task which, as I learn from Dr. Führer, is at present in progress under his superintendence.

¹⁰ See the *Academy*, for 27th April 1895.

¹¹ In the *Englishman* of the 1st June 1896.

¹² For further particulars see Dr. Führer's *Annual Progress Reports for 1893-97* ; also *Journal*, Royal Asiatic Society, for 1897, pp. 429, 615, 644.

With the discovery of Kapilavastu, it will now be possible also to identify definitely Kusinagara, the place where Buddha died. It is probable that it will be found to the eastward, either just within or just without the frontier-line dividing British and Nepalese territory. To discover this celebrated spot must be the next object of archæological research.

Archæology and Epigraphy.—I will now proceed to give you some account of our progress in Indian archæology and epigraphy.

The earliest specimen of Indian writing known to us is that which is found in the celebrated Aṣṭka inscriptions. Aṣṭka reigned in the latter half of the third century B.C. His capital was at Pāṭaliputra, the modern Patna, but he ruled over an empire which probably had the widest extension ever attained by any under a native Indian ruler. This is shown by the wide distribution of the edicts which he caused to be engraved on rocks and pillars throughout his dominions, and in which he promulgated his regulations for ordering the moral and religious welfare of his subjects. These edicts have been found as far east as Dhauli in Orissa, as far west as Shāhbāzgarhī beyond the Indus, and as far south as Siddāpur in Mysore. The northern extension of Aṣṭka's empire is shown by the recent discovery (in 1895) of a pillar inscription of his in Niglivā, within the Nepalese frontiers. The Mysore edicts, too, are a recent discovery, having been found by Mr. Lewis Rice in 1892 near the village of Siddāpur, in the Chitaldrūg district in the Mysore State. One of these Aṣṭka edicts forms a connected series of fourteen paragraphs. It occurs in a nearly identical version engraved on large rocks or boulders at six different places, among them at Girnār in Junāgarh, at Mansehra near Abbottabad, and at Shāhbāzgarhī. At these three places, the three last paragraphs of the edict had long been missing; but quite recently, they have been recovered, either wholly or in part. One was discovered by Major H. A. Deane, in 1887, another by a subordinate officer of the Archæological Department in 1889, and the third by Rāe Bahādur Gopālji S. Desai in 1893.¹⁸

Until recently it had been customary to call the script used in these inscriptions the "Aṣṭka characters," because for a long time they had not been observed to occur in any inscriptions but those of Aṣṭka. Gradually, however, other inscriptions came to light, exhibiting the same characters. They were observed, *e.g.*, on very early coins of Græco-Indian and other dynasties; and they also appear on the sculptures of the Barhāt stūpa which may be seen in one of the galleries

¹⁸ Published by Hofrath Prof. Bühler in the *Epigraphia Indica*, Vol. I, p. 16, in the *Vienna Oriental Journal*, Vol. VIII, p. 318, and in the *Journal of the German Oriental Society*, Vol. XLIV, p. 702.

of the Indian Museum. Since then they have been found, for example, in an inscription of the Pabhosa cave which was discovered in 1887 by Mr. J. Cockburn of the Opium Department,¹⁴ in another found in the same year by the late Kavirāj Syamal Dās near Nagari in Mewar, and in the curious copper-plate, discovered by Dr. Hoey in 1894 at Sohgaūrā in the Gōrakhpur District.¹⁵ The name "Açōka character" was, therefore, found very misleading and inconvenient. Hence, seeing that Açōka belonged to the Maurya dynasty, the term "Maurya characters" or "Maurya script" has now generally been adopted. This Maurya script is the lineal ancestor of the modern Northern Indian scripts, notably of the best known among them, the Nāgari or Dēvanāgarī. There are few things so interesting in archæology as the history, with all its concomitant details, of the evolution of the modern scripts of Northern India. But unfortunately, till recently, the absence of a good text-book on the subject was felt to be a great hindrance. A very creditable attempt to supply this want was made by a native scholar Gaurishankar Hirachand Ojha of Udaipur in his *Palæography of India*, published in 1894. But still more was required, and this has now been supplied by Hofrath Prof. G. Bühler of Vienna, who is *facile princeps* in all matters appertaining to Indian epigraphy and palæography. His excellent and exhaustive *Indian Palæography* was published in 1897, and forms a portion of the *Encyclopædia of Indo-Aryan Research*, which is being brought out under his general editorship, and which will present a summary of everything that modern research has established in the domains of Indian philology and archæology. The name Brāhmi has been adopted by him as a general term for all the Northern Indian types of alphabet. A cursory survey of these types will show that their evolution has produced a very marked change in the form of the letters about the middle of the fourth century A.D. The oldest type of the preceding period is represented by the Maurya script of the time of Açōka. The oldest type of the second great period—that type with which this period commences—is what is known as the "Gupta characters." This script is called so because it is used by the kings of the Gupta dynasty who reigned in the fourth and fifth centuries A.D., first in Pāṭaliputra or Patna and afterwards either in Kōçāmbi or in Ayōdhyā,¹⁶ and whose empire was

¹⁴ Published by Mr. Cockburn in our *Journal*, Vol. LVI, p. 81, by myself in the *Proceedings As. Soc. Beng.*, for 1887, p. 103 and by Dr. Führer in the *Epigraphia Indica*, Vol. II, p. 242.

¹⁵ Published by Dr. Hoey, Mr. Smith, and myself in our *Proceedings* for 1894, p. 84, and by Hofrath Prof. Bühler in the *Vienna Oriental Journal*, Vol. X, p. 138.

¹⁶ See Mr. V. A. Smith, in *Journal*, Royal Asiatic Society, for 1897, p. 910.

for a time almost as extensive as that of Aṣōka. The second period may be reckoned to have extended to the end of the twelfth century A.D. From that time the Northern Indian alphabets as they now exist have practically become established. The earlier period, also, seems to me to divide itself similarly into two sub-periods about the commencement of the Christian era. The later sub-period is characterised by the "Indo-Scythian characters," used under the kings of the Indo-Scythian dynasty, in the first and second centuries A.D. Their empire was in North-Western India and reached as far as Mathurā, where the numerous Jain inscriptions written in the Indo-Scythian script, referred to in the preceding part of my address, have been found.

In this connection I may note a remarkable discovery, made by Dr. W. Hoey in 1896 in Gōpālpur in the Gōrākhpur District.¹⁷ It is that of a few bricks of large size (10½ by 4½ inches) inscribed with portions of certain Buddhist sacred books. They were dug out from an underground chamber, and the circumstance of some Indo-Scythian copper coins having been found with them shows that their deposition must be referred to the third century A. D. This is confirmed by the character of the writing which is transitional between the Indo-Scythian and Gupta scripts. With the exception of the legends of the Gupta coins, inscriptions dating from the period between 250 and 400 A.D. were almost altogether lacking. The discovery, therefore, of these bricks now helps to fill up a considerable gap in Indian epigraphy. Moreover it is startling to find the Indian Buddhists using bricks, as the Assyrians did, to preserve long documents. Speaking of Gupta coins I may mention that we now possess an excellent and exhaustive monograph on the subject, published in 1889 and 1892 by Mr. V. A. Smith in the *Journal of the Royal Asiatic Society*.¹⁸ Some of the gold coins and medals, issued by the kings of the Gupta dynasty, are among the finest known in Indian Numismatics. With regard to this dynasty a very important discovery was made in 1888 at Bhitari in the Ghāzipur district. This was a large seal of copper and silver, the legend on which in 1889 I succeeded in deciphering,¹⁹ and which proved that the dynasty consisted of nine members instead of the seven hitherto known. The two new members are Pura Gupta and Kumāra Gupta II. The history of two earlier members, Samudra Gupta and Candra Gupta, has been examined in detail in three very interesting papers published by Mr. V. A. Smith in

¹⁷ Published by Mr. V. A. Smith in our *Proceedings* for 1896, p. 99.

¹⁸ Also in our own *Journal*, Vol. LIII, for 1884; see also his papers on "Numismatic Novelties" in our *Journal*, Vols. LXV and LXVI.

¹⁹ Published in a joint-paper by Mr. V. A. Smith and myself in our *Journal*, Vol. LVIII, for 1889.

the Journal of the Royal Asiatic Society for 1897.²⁰ All inscriptions in the Gupta character, known up to the year 1888, have been collected by Dr. J. F. Fleet and published by him, with facsimiles, in the third volume of the *Corpus Inscriptionum Indicarum*, in the introduction to which he has also finally settled the hitherto much disputed epoch of the celebrated Gupta era to be the year 319-20 A.D.²¹

For long the prevalent opinion has been that the introduction of the art of writing into India took place in the third century B.C., during the rule of the Maurya dynasty. This opinion was based on the fact that the earliest specimens of writing, though incised in places as widely apart as Orissa and Gujarāt, appeared on the first view to show no local varieties in the shape of their letters. More accurately made facsimiles and a more thorough and minute examination of these facsimiles, such as Hofrath Prof. Bühler and Mr. E. Senart have latterly made and published in the Journals of the German and French Asiatic Societies, have now brought to light the fact that smaller local varieties are by no means absent. The most striking evidence, however, of the existence of a well-marked local variety has been afforded by the inscriptions on the relic-casket, found in 1891 in the Bhaṭṭiprolu stūpa in the Kistna District of the Madras Presidency. These inscriptions, as Hofrath Prof. Bühler has discovered,²² show a system of writing which in some respects is radically different from that prevailing in the more Northern inscriptions of Aṣōka. Thus, to mention only one point, the Bhaṭṭiprolu alphabet contains one new letter (l) and five new forms of other letters (gh, j, m, e, s). It is obvious that this discovery throws a new light on the question of the age of the art of writing in India. Such a marked variation cannot have sprung up in a short time, but must have had a long history before the time of Aṣōka. With this new light, and with the help of accurate facsimiles now available, Hofrath Prof. Bühler subjected the question of the age and origin of the Brāhmī script to a fresh searching investigation.²³ Their result is to render two facts extremely probable: first that the Brāhmī script is directly derived from the oldest Phenician alphabet, and secondly that it was in common use in

²⁰ See Articles I, II and XXIX in that Journal.

²¹ The title of this volume is *Inscriptions of the Early Gupta Kings and their Successors*. On the epoch see also Dr. Fleet's paper in the *Journal of the Bombay Branch of the Royal Asiatic Society*, Vol. XVIII, for 1891, p. 71.

²² Published in the *Academy* for May 1892, *Vienna Oriental Journal*, Vol. VI, p. 148, and *Epigraphia Indica*, Vol. II, p. 323.

²³ Published in the *Transactions of the Vienna Imperial Academy of Sciences*, Vol. CXXXII, under the title: *Indian Studies*, No. III, on the "Origin of the Indian Brahma Alphabet." A very useful abstract of Hofrath Prof. Bühler's argument is given by Dr. G. A. Grierson in the *Indian Antiquary*, Vol. XXIV, p. 246.

India during the fifth, and perhaps in the sixth, century B.C. The Brāhmī script, like the English, runs from the left to right, while the Phenician script, like the Hebrew, used to run from the right to the left. If Hofrath Prof. Bühler's theory is correct, one may expect to find in India some evidence of the change of the direction in writing. Curiously enough such evidence does exist. A coin has been found by the late Major-General Sir A. Cunningham²⁴ in Eran, in the Central Provinces, which clearly exhibits a legend in Brāhmī characters running from the right to the left. It is probably of about the same age as the Aṣōka edicts, that is, about the third century B.C.; and as these edicts themselves occasionally show single letters placed in that reversed direction, it becomes very probable from these isolated survivals that the great change of the direction in writing the Brāhmī characters took place in India in the course of the fourth century B.C. I may here mention another discovery made by myself, which corroborates the Indian tendency of changing the direction of writing. By the side of the Brāhmī characters, there was another, quite distinct script in use in India at the time of king Aṣōka. This is the so-called Bactrian or Ariun-Pali, or as it is now called the Kharoṣṭhī script. Its use was limited to North-Western India, from the Panjāb westwards, while through the whole of India eastwards and southwards the Brāhmī script, in some one or other of its varieties, was current. Hofrath Prof. Bühler has shown²⁵ that this secondary Indian script is of somewhat later date than the Brāhmī, that it arose from an Aramean alphabet used in Persia in the sixth century B.C., and that it spread into India only in the fifth, or perhaps even as late as the fourth century B.C. It is a script, which like its source, the Aramean, runs from the right to the left; and it is found written in that fashion in the Aṣōka edicts and all other inscriptions. There is only one exception, namely two coins of the Indo-Parthian king Abdagases who probably reigned in the first century B.C. in the regions about the Indus. They were obtained by Mr. J. A. Bourdillon from the Gayā Bazar, and I discovered on them a legend in the Kharoṣṭhī characters, but running from the left to the right.²⁶ This shows that a process of change in the direction of writing those characters was beginning to spring up in India in the first century B.C.; and it is not impossible that the change might have, in the course of time, fully established itself within the borders of India, just as it did in the case of the Brāhmī alphabet, but for the circum-

²⁴ Published by him in his *Coins of Ancient India*, p. 101, Plate XI, fig. 18.

²⁵ See his paper in the *Vienna Oriental Journal*, Vol. IX, p. 44.

²⁶ Published by me in our *Proceedings*, for May 1895, and in our *Journal*, Vol. LXVI, Part I, (for 1897), p. 139, Plate VI, figs. 7 and 8.

stance that the custom of using the Kharoṣṭhi script died out in India too early to admit of any such radical change. For that script probably ceased to be used in India about the end of the second century A.D., though it continued to be current for a much longer period in the countries bordering on India in the West and North. In those regions its use probably survived until the time of their conquest by the Muhammadan Arabs in the eighth century A.D., when it was superseded by varieties of the Arabic script. On this subject some more evidence has recently come to light. In 1895, Mr. A. Caddy, who had been deputed by the Government of Sir Charles Elliott on archæological exploration, excavated a large statue of a standing Buddha at the Lorian Tangai stūpa, in the lower Swat valley, on the pedestal of which was found a short inscription in the Kharoṣṭhi characters, dated in the year 318. A similar inscription dated in the year 384 appears on the pedestal of another standing figure of Buddha, discovered in 1883 by Mr. L. White King, at Hashtanagar, in the Peshawar District, and published by Mr. V. A. Smith in our Journal. The era of these two dates is still a matter of dispute, but so much is certain that they carry us well into the fourth or fifth century A.D.²⁷

These dated inscriptions in the Kharoṣṭhi characters have an important bearing not only on the subject of palæography, but also on the question of the age of Græco-Buddhist art in the countries on the further side of the Indus. Into the latter subject, however, I cannot enter now, both because it is foreign to the matter of epigraphy and palæography which I have now in hand, and because much of it also lies outside the period I am now reviewing. For the existence of a considerable Greek influence on the Indian Buddhist art in the countries bordering on the Indus has long been known. But I will not pass on without calling attention to two masterly essays by Mr. V. A. Smith, on "Græco-Roman Influence on the Civilization of Ancient India," published by him in 1889-92, in the Journal of our Society,²⁸ and highly praised by Professor Grünwedel of Berlin in his "Buddhistic Art in India." Mr. Smith reviews the subject from every point of view, discussing principally the subject of sculpture, but also touching on

²⁷ The era may either be that of Kanishka, commencing in 78 A.D., or of Moga commencing about 40 B.C. Accordingly 318 may be equivalent to 396 or 278 A.D., and 384 to 462 or 344 A.D. The latter date has hitherto been read 284, but, as Dr. Bloch informs me, it is undoubtedly 384. See our *Journal* Vol. LVIII, p. 44; also *Indian Antiquary*, Vol. VIII, p. 257.

²⁸ See Vols. LVIII and LXI, p. 50, 107ff. Professor Grünwedel's book was published in 1893; see there, p. 79.

architecture, painting, coinage, drama, religion, mythology, science and philosophy. I may note, as two of the main results of his review, the conclusions that the Gandhāra or Peshawar school of sculpture followed the lines of Roman art, and is not the direct descendant of pure Greek art; and that the history of that school was practically at an end by A.D. 450.

All the specimens of writing which I have hitherto referred to are examples of what is called the lapidary or diplomatic style. It is the style which was peculiar to the clerks of the "kutcheries" or offices of the government or other great establishments, and which was used by them for the purpose of engrossing royal edicts, donations, etc. The manuscript copies, prepared by these professional writers, were afterwards reproduced by skilled artisans on stone or copper or other enduring material; and it is in these reproductions that the inscriptions I have referred to have come down to us. In most cases probably the original writing was made by the professional scribe on the permanent material itself. Anyhow, if any were made on perishable material, such as palm-leaf or paper, none have come down to us. The requisite of the diplomatic style of writing is that it should be calligraphic, that is, clear and legible, and more or less elegant and ornate. In these respects it differs from what is called cursive writing, or that which is used in correspondence and all the ordinary concerns of life. Here the object is not permanence but quickness; the letters are formed with a running hand, they have a tendency to join one another, and to modify their original shape. On the other hand, diplomatic writing has a tendency to conserve older and simpler forms. It represents conservation in the history of the art of writing, while cursive writing represents progress. It follows, therefore, as a general principle in palæography, that advanced forms of letters mark cursive writing, and that if we meet with a few letters of a cursive form in a document otherwise written in older forms, they have been adopted from the fashions of the cursive writing of the period. Gradually these adoptions grow more extensive; but by the time they include the whole circle of the alphabet, the changes in cursive writing have also advanced a step further. It thus comes to pass that the diplomatic writing of any particular period represents on the whole the state of the cursive writing of the period immediately preceding. These are principles which are now generally admitted in Indian palæography, but it was Hofrath Prof. Bühler who first directed prominent attention to them.

It is obvious that cursive writing, as a rule, can only be expected to be met with in manuscripts. No manuscripts, as I have already remarked, have come down to us, dating from the earliest period of

writing in India. No manuscript has, as yet, been discovered written in the Maurya characters like those of the time of Aṣṭka. But that cursive writing did exist in those days is shown by the casual occurrence of advanced forms of letters in the Aṣṭka inscriptions, and that it cannot have been at all uncommon in the daily concerns of life is shown by numerous references to it in the oldest Indian literature. Thus we hear of a slave getting himself a rich wife by means of a forged letter, and another going to a school to learn writing together with the son of his master, who was a Seth or banker, or again of a teacher corresponding with his pupils.²⁹ The style of writing used by bankers must have been then, as it is now, of a very cursive kind. All this points to a very early knowledge of the art of writing in India. It may very well go back, as Hofrath Prof. Bühler suggests, to the sixth century before Christ.

That actual manuscript evidence of such an early age will ever be found is extremely improbable. The commonest writing material in those days were *parṇa* or leaves, that is, no doubt, the same kind of palm-leaves as those which are still occasionally used in Orissa and elsewhere. In the climate of India such manuscript materials would not conserve for any considerable length of time. It would have been different, if we had to deal with climatic and meteorologic conditions, such as we have in Egypt or Central Asia. It is not till we come to the commencement of our era that we first meet with manuscripts preserved down to our days. The oldest manuscripts, known until quite recently, were some scraps of inscribed birch-bark, found in 1834 by Mr. Masson in one of the stūpas of Afghanistan.³⁰ These were inscribed with Kharōṣṭhī letters, but were too minute to be of any service. However, we possess now a more serviceable manuscript of the same description, and of about the same age. This consists of a few detached leaves of birch-bark, inscribed with Kharōṣṭhī characters, and in the Pāli language, which appear to have once formed a portion of the Dhammapada, one of the well-known sacred books of the Buddhists. Some of them were obtained in 1891 in Central Asia, by the French explorer M. Dutreuil de Rhins, who unhappily soon afterwards was murdered at the hands of Tibetans. These leaves ultimately found their way to Paris, while others, secured by Russian explorers, went to St. Petersburg. They had evidently once belonged to the same manuscript. Photographic facsimiles of them were exhibited in 1897 at the Eleventh International Congress of Orientalists in Paris, by Mr. E. Senart

²⁹ Numerous other examples will be found in Hofrath Prof. Bühler's essay on the "Origin of the Brāhmī Alphabet" above referred to.

³⁰ It was one of the Nandāra Topes; see *Ariana Antiqua*, p. 84.

and Professor S. von Oklenburg. In their opinion the manuscript could not be of much later date than the Christian era, and might, possibly, be even older.

It is thus curious that what is probably the oldest Indian manuscript should have been obtained outside India, in Central Asia. Yet after all, it is perhaps nothing more than might have been expected. Indian civilization and Indian literature was carried by the Buddhist propaganda into Central Asia as early as the commencement of our era. Their settlements extended as far as Khotan, Kuchar and the borders of China proper. What was thus carried out of India stood a very good chance of being preserved by the dry climate and soil of the Central Asian deserts, the wonderfully conserving power of which seems to be as great as that of Egypt. Indeed, to judge from the abundant yields of recent explorations, Central Asia promises to be as fruitful a mine of epigraphical discoveries as Egypt has proved to be. In Central Asia nothing seems to decay but what is destroyed by the ignorance or the malice of men.

It is to Central Asia that we also owe our oldest manuscript in the Brāhmī alphabet. This is the well-known Bower Manuscript, the date of which cannot be later than 450 A.D., and may be much earlier. My edition of the text of this manuscript, entrusted to me by the Government of India, was completed last year. An introduction, narrating its history and discussing its age, contents, etc., is now under preparation. Its history, which is not without interest on account of its connection with other important discoveries, those of the Weber and Macartney Manuscripts, I will briefly relate. The Bower Manuscript is called after Captain Bower, who, on his tour of Central Asian exploration, in 1890, obtained it in Kuchar from a Turki visitor. The latter also showed him the place where the manuscript had been dug out. It was the site of an ancient Buddhist *vihāra* or monastery, partly consisting of cells cut in the rock of a neighbouring hill. In connection with this *vihāra* there were also the ruins of an ancient *stūpa*, from the relic chamber of which the manuscript had been dug out precisely in the same way, as the scraps of inscribed birch-bark and other relics had been obtained by Mr. Masson in 1834 from the old *Topes* of Afghanistan.

From information received by me later on from Mr. Macartney, the British Political Agent in Kashghar, it appears that at some time in 1889 a Turki merchant of Kuchar (probably Captain Bower's visitor), in conjunction with a friend of his named Dildār Khān, an Afghan merchant of Yarkand, undertook, secretly for fear of the Chinese authorities, to excavate the *stūpa* in question. Their object in digging into

it was to find treasure, as it was well known that in the time of Yaqūb Beg much gold had been discovered in such ancient buildings. Probably the Afghan also knew that in his own country the excavation of stūpas had occasionally yielded golden results. Whether or not they found any treasure is not known, but what they do admit to have found was a large number of manuscripts together with a quantity of bones. The hole which they made into the stūpa was excavated straight in, level with the ground, and the manuscripts, accordingly, would seem to have been found in the centre of the stūpa, on the ground level, exactly in the spot where the original deposit of relics is usually met with in such monuments. The two friends divided the spoil between them. The Turkī secured as his share the Bower Manuscript, which he afterwards disposed of to Captain Bower in 1890. The Afghan received the other moiety of the manuscripts. Of this he gave, apparently in 1891, one portion to the Russian Consul Petrovski in Kashghar. The latter forwarded it to St. Petersburg where specimens of it were published by Professor von Oldenburg in the Journal of the Imperial Russian Archæological Society. The remainder Dildār Khān took away with him to Leh in 1891. Here he gave one portion of it to Munshi Ahmad Din, who in his turn presented his acquisition to Mr. Weber, the Moravian Missionary. The latter transmitted it to me, and specimens were published by me in our Journal in 1893. The remaining portion Dildār Khān took with him to India, where he left it with a friend of his in 'Aligarh. On a subsequent visit to India in 1895, he brought it away again and presented it to Mr. Macartney. The latter forwarded it in 1896 to the Foreign Office in Simla, whence it was transmitted to me, and specimens of it were published by me in our Journal for 1897.

When I came to examine more closely the manuscripts received from Mr. Weber and Mr. Macartney in order to compare them with those sent to St. Petersburg, I discovered that between them they contained portions of the same Buddhist work. This work tells the story of a certain General Māṇibhadra, how he visited Buddha, became a convert to Buddhism, and was taught by him a wonderfully effective charm. With the two-thirds in my hands, and the one-third in St. Petersburg, it will now probably be possible to publish the entire work, and I would suggest that the British and Russian Governments combine to do so.

The principle of giving *num cuique* is one which it is well to observe on all occasions. Accordingly I have called the manuscripts received by me from Mr. Weber and Mr. Macartney by their names, the Weber Manuscripts and the Macartney Manuscripts. Similarly I

have called some other Central Asian manuscripts which I received from Captain H. S. Godfrey, Assistant British Resident in Kashmir, the Godfrey Manuscripts. These two gentlemen, Mr. Macartney and Captain Godfrey deserve the greatest credit for the zeal and circumspection with which they have been collecting not only manuscripts but also other antiquities from that part of Central Asia which is known as Chinese or Eastern Turkistan, and assisting me in making a collection worthy of our country. Their efforts are being ably seconded by Colonel Sir Adalbert Talbot, K. C. I. E. the British Resident in Kashmir. Central Asian archæological exploration is being more and more vigorously conducted every year. France and Russia have been in the field for some years. They have latterly been joined by Sweden, whose energetic explorer Dr. Sven Hedin has returned from a prolonged tour in Eastern Turkistan with a large collection of antiquities. Feeling that it would not do for Great Britain to be outstripped in these researches, I suggested to the Government of India the desirability of instructing their Political Agents in Kashghar and elsewhere to endeavour to collect Central Asian antiquities. This was in 1893, while I was working at my edition of the Bower Manuscript. My suggestion was heartily seconded by Sir Charles Lyall, K. C. S. I. (then the Home Secretary), and the Government of India, approving it, issued necessary instructions in August 1893. Since then a large number of such antiquities has been secured, and more are coming in. All acquisitions are transmitted to me, under the orders of the Government of India, for examination and report: their final place of deposit is to be the British Museum in London.

These antiquities consist of terracottas, coins, images and miscellaneous objects of metal, stone or other material; but the main portion is formed of manuscripts. A regular, or perhaps I should rather say an irregular, trade in such antiquities seems now to have sprung up. Captain Younghusband, in the interesting account of his travels through *The Heart of a Continent*, tells us how he advised one of his Musalmān guides, whose great ambition was to visit England, to "search about among the old ruined cities of that country and those buried in sand, in order to find old ornaments and books for which large sums of money would be given him in England." Eastern Turkistan which is now to a great extent an arid desert of sand, seems to have been a fairly fertile country about the commencement of our era. Two great trade routes passed through it from China to Western Asia. One skirted the foot of the Tian-Shan mountains, along its northern borders, running by the town of Kuchē or Kuchar; the other passed by the Kuen-lun mountains and the town of Khotan on the south. It is principally from these two towns and the intervening desert coun-

try that the antiquities we now possess have been procured. Some were obtained in Kuchar, but most of them came from the Takla Makan Desert, lying north of Khotan. That desert is, by the natives of Kashgharia, believed to have been once a fertile and cultivated country. There is a tradition that before the introduction of Muhammedanism, in the eleventh century A.D., forty-one cities flourished in that region, but that by reason of the obstinate disbelief of the inhabitants, who were mostly idolaters, their country was suddenly and miraculously destroyed by a sandstorm. It is certain that the town of Katak, which probably lay about midway between Kuchar and Khotan, was buried and destroyed by the sands about 1330 A.D. But this process of submersion under the "moving sands" as they are fitly called by the natives, has been going on for centuries, as we know from the Chinese Buddhist pilgrim Hsien Tsiang who travelled through Eastern Turkistan in the middle of the seventh century. Very graphic accounts of the appearance and action of the moving sands are given by Dr. Bellew, Captain Younghusband and other travellers. "During the spring and summer months a north or north-west wind prevails. It blows with considerable force and persistence for many days consecutively. As it sweeps over the plain, it raises the impalpable dust on its surface, and obscures the air by a dense haze resembling in darkness a November fog in London, but it drives the heavier particles of sand before it, and on the subsidence of the wind they are left on the plain in the form of ripples like those on the sandy beach washed by an ebbing current." In course of time there is formed "a perfect sea of loose sand advancing in regular wave lines from north-west to south-east. The sand dunes are mostly from ten to twenty feet high, but some are seen like little hills, full a hundred feet high, and in some spots higher. They cover the plain, of which the hard clay is seen between their rows, with numberless chains of two or three or more together in a line, and follow in successive rows one behind the other." It is these moving sands that have engulfed whatever of the ancient civilization of Eastern Turkistan escaped the devastations of consecutive wars and conquests.

That civilization must have been of a very mixed kind; for Eastern Turkistan was the meeting place of the culture of India, China and Western Asia. Indian civilization was carried there by the early Buddhist propaganda about the commencement of our era. Somewhat later the semi-Greek culture of Parthia and Armenia and the indigenous civilization of China were brought into the country by the merchants and soldiers that travelled or marched by the two great trade-routes already referred to. These were followed still later, from

the sixth to the eighth centuries, by the civilization of the Nestorian Christian Missionaries, and finally, from the ninth century, by the Arab Muhammadan conquests.

It can be easily imagined that such a mixture of civilization would betray evidences of its existence in the antiquities recovered from the sand-buried tracts and towns of the country. Such is really the case. The antique objects which have now accumulated with me, owing principally, as I have already remarked, to the exertions of Mr. Macartney and Captain Godfrey, divide themselves into four classes: manuscripts, coins, terra-cottas, and miscellaneous objects. Some of the manuscripts have been dug out from old Buddhist ruins near Kuchar, and belong to the most ancient portion of the collection. But all the rest have come from the neighbourhood of Khotan, where, as Mr. Macartney informs me, "these relics are in such abundance that a few persons of that town make a regular livelihood as treasure-seekers. After a sandstorm or a flood they will proceed to such sand-buried localities as seem most promising in the hope of picking up some objects in gold or silver which had been laid bare by the wind or water."

The manuscripts obtained from Kuchar are the Bower MS., the Weber MSS., and a few of the Macartney MSS. The peculiarity of these is that they are all written in two species of the Indian Brāhmī alphabet. One of these is a species which was actually current in North-Western India up to the sixth century A.D. And it follows, therefore, that the manuscripts written in this variety of the Brāhmī, —commonly known, in a general way, as the Gupta characters—were either imported from India or written by Indian Buddhists who had settled in Kuchar. It follows further that these manuscripts cannot well be later than the sixth century, though they may be much older. In fact, the Bower MS. probably belongs to the fifth century, and one of the Macartney MSS. which has a still more archaic appearance, to the fourth century A.D. The interest of these manuscripts, apart from their great palæographic value, principally lies in two points: the direct evidence which they afford of the early existence of Indian Buddhism in Kuchar, and the light which they throw on the history of Indian Medicine. They mainly contain medical treatises, and thus not only prove the very early existence, hitherto much doubted, of the science of medicine in India, but also that the profession of medicine, in those early days, was inseparable from that of sorcery and astrology, and that, in fact the monkish owner of the manuscripts was a "medicine-man" rather than a "medical man."

The Bower Manuscript is written on leaves of birch-bark, while all the other Central Asian manuscripts are written on paper of varying

texture and colour. Paper appears to have been the usual writing material in Eastern Turkistan. The art of paper making has been known for ages in China ; it has also been practised for a long time in the Himālayan countries. It cannot, therefore, be a surprise to find that it was also known in Eastern Turkistan, which from almost the beginning of our era has been in more or less close political connection with China. The birch, on the other hand, is not known in Eastern Turkistan, while it is found in the Himālayas, and its bark is used as common writing material in Kashmir. This is an additional proof of the Bower Manuscript being an Indian product, exported to Central Asia.

Most of the Macartney Manuscripts, as I have already remarked, come from the neighbourhood of Khotan. They were found or dug out at different places in the Takla Makan desert, generally about 50 or 60 miles distant from that town. The find-spots are sometimes described as ruins of walls of habitations, sometimes as cemeteries. One is described as a solitary mound, and circular, about 5 feet in diameter and 2 feet in height. This was evidently the ruin of an old sepulchral tumulus or stūpa ; for in it was found a skull resting on a coarse cloth bag enclosing a manuscript book ; and two small copper images of horsemen were dug up from its interior. The whole of this find was received by me exactly in the state in which it had been found.

The manuscripts from Khotan form a surprisingly varied collection, both with regard to condition and script. As to their condition, there are among them bound volumes, detached leaves, and large single sheets. The single sheets appear to have been official documents of some kind ; for they mostly bear the inked impress of seals. Many of the detached leaves appear to have originally belonged to a volume, now broken up, whether by the finder or by some other cause, is not known. Of bound volumes I now have twenty-one in my possession. They greatly vary both in shape, size and thickness. Some are nearly square, others decidedly oblong. Some are about eleven, others only about four inches square ; some measure $15 \times 4\frac{1}{2}$, others only 10 or $7 \times 4\frac{1}{2}$ inches. The number of their leaves varies between 12 and 112. Some are bound, or rather stiched, in the modern European fashion ; others are done up like Indian *pōthīs* by means of a string-hole and wooden boards, only instead of a string, a copper nail is passed through the hole. The stiching likewise is done either by means of two or three copper nails, or by twists of paper. The ink which is used is, as a rule, black ; only in two or three exceptional cases, it is white ; but in either case it is indelible ; for all the manuscripts can be washed, without injuring the writing.

With reference to the characters and the language in which these manuscripts are written I am not yet in a position to make any definite statement, as I have had no leisure to make more than a very cursory examination of them. There certainly seem to be at least seven distinct scripts, and from sixteen to twenty varieties. The scripts are all of old types and appear to be Armenian, Kharōṣṭhī, Pahlavi, Turki, Uigur (or Nestorian), Chinese, and two others as yet quite unassignable. Of course, a script is not any necessary indication of the language in which the book may be written; and so long as the scripts have not been definitely deciphered, it is not possible to determine the number of languages that may be represented in the manuscripts. I may note, however, that in one instance, the manuscript (one of the sealed documents) shows two scripts side by side, a circumstance which may possibly afford a key to the decipherment. Similar help may perhaps be given by another manuscript (one of the Turki) which seems to contain sketches of seals or coins.

Besides manuscripts, my collection of Central Asian antiquities contains, as I have already stated, a large number of coins (about 300). These, it may be hoped, will prove of great value for the purpose of determining the age of the sand-buried cities. They extend over a considerable space of time, though they are all very old. Some are Chinese, and go back to about the first century B.C.; others are Sassanian of the fourth and fifth centuries A.D. Others again belong to some of the earlier Muhammadan dynasties. Among the earliest coins there are a few of very peculiar interest, because they are bilingual, showing Chinese legends on one side and Kharōṣṭhī on the other. The Kharōṣṭhī legend, according to Dr. Bloch who has kindly examined them for me, appears to refer these coins to Gondophares in the first century A.D.

Among the terra-cottas in my collection, there are a number of pieces of pottery which show Græco-Buddhist designs of that kind which was current in Gandhāra, a portion of modern Afghanistan, in the earliest centuries of our era. Mr. Havell, the Principal of the Calcutta School of Art, has been very helpful to me in re-constructing some very fine vases of this kind from a few detached fragments. There are also numerous full figures of monkeys, from 1 to 3 inches high, in all sorts of postures, rather well made, some playing on the well-known Greek reed instrument, the syrinx, like satyrs. Very curious is one piece which shows an ornamental design peculiar to Assyria. Another piece bears a lightly incised inscription in ancient Brāhmi characters of the fifth century A.D. All this points to an extension, in those early ages, of the Grecian culture of Western Asia into Eastern Turkistan,—a fact which was until now quite unsuspected.

Altogether Central Asia seems to be a country likely to be pregnant with archæological surprises, and it is satisfactory to know that Great Britain will not be behind other countries in securing a fair share of them.

In connection with the Central Asian manuscripts of which I have been speaking, I must mention a very important discovery which has been recently made by Major H. A. Deane. In 1894 he first discovered a number of inscriptions in an unknown script, incised more or less carefully and distinctly on detached pieces of stone. In the following years he collected further large numbers of inscriptions of the same kind. They have all been found on the northern border of the Peshawar District and in the independent territory beyond it, in the countries, therefore, which anciently were called Gandhāra and Udyāna. Some of them have been published by Mr. E. Senart in the *Journal of the French Asiatic Society*, and the rest by Dr. A. Stein, in our *Journal*.⁵¹ These two scholars have subjected them to a very careful and minute examination, the result of which is that the characters used in them, though probably closely related to one another, show distinct signs of being distributable into five different varieties.⁵² But neither of those scholars, nor indeed anyone else hitherto, has been able to discover a key to reading them. There is, however, some ground for believing that ultimately they will be found to be written in some species of Turki script and language. For some Turki inscriptions found on the banks of the river Orkhon in Mongolia and deciphered by Professor V. Thompson in 1893, have been compared by Hofrath Prof. Bühler with Major Deane's inscriptions, and he has observed that more than a dozen letters seem to be common to both. Further Professors Levi and Chavannes of Paris have shown from the Itinerary of the Chinese pilgrim Oukong that in the middle of the eighth century A.D. the countries of Gandhāra and Udyāna were united under a dynasty of Turkish nationality and language.⁵³ Among my Central Asian manuscripts there are several which I suspect may be written in a very early species of Turki. The characters are of an unknown kind, but, as the result however of a mere cursory inspection, I seem to have noticed resemblances to the characters occurring in Major Deane's inscriptions. Here, therefore, there seems to present itself a possibility of unravelling the puzzle of the inscriptions as well as the manuscripts.

⁵¹ See *Journal Asiatique*, Vol. IV, pp. 332 and 504. Also reprinted as *Notes d'Epigraphie Indienne*, No. V, 1895; and our *Journal*, Vol. LXVII, 1898.

⁵² Three of them, identified by Mr. Senart, have been called by him the *Spankharra*, *Boner* and *Mahaban* varieties. The other two have been discovered by Dr. Stein who gives the name *Nurizai* to the fourth variety; the fifth he does not name.

⁵³ See *Journal Asiatique*, Vol. VI, p. 378, for 1895.

Ethnographic and Linguistic Surveys.—During the period under review two new Surveys have been added to those already existing in India and doing such splendid scientific work.

The first of these is the Ethnographic Survey, which, so far as Bengal is concerned, was under the direction of the Hon'ble H. H. Risley, C.I.E. This survey is one of the direct results of the general census of 1881. It was not commenced, however, before 1885, in Bengal, and it was completed there in 1891 with the publication of Mr. Risley's report in four volumes. In the North-Western Provinces it was taken up in 1892 under the superintendence of Mr. W. Crook, and was completed in 1896, also with the publication of a Report in four volumes. The survey of the Panjāb was started in 1894 under the charge of Mr. Longworth Dames, and is still in progress.

The scheme of these ethnographic enquiries was framed from the first so as to serve two distinct purposes, the one in the main administrative, the other principally scientific,—a distinction which is carefully maintained in the four volumes embodying the results of Mr. Risley's portion of the work. The administrative uses are subserved by his first two volumes which contain, in alphabetical order, in the form of a glossary, an enumeration and description of the tribes, castes, sects and occupations of the people of Bengal. The other two volumes give the scientific part of the enquiry, and consist of the tables of anthropometric data on which Mr. Risley's ethnographic generalisations are based. Special interest attaches to these tables; for they are the first attempt on a large scale to apply the anthropometric system, elaborated by the French school of anthropologists, to the elucidation of the problem of caste which is so prominent in India. In the introduction to his first volume Mr. Risley discusses this problem in the light which is thrown on them by the data collected in the tables. His conclusions may be thus summarised. The whole of India is inhabited by a dolichocephalic or long-headed race. The brachycephalic or broad-headed race occurs only along the northern and eastern borders of Bengal, and can hardly be deemed Indian at all. In the long-headed race, however, two extreme forms can be distinguished, the Aryan and the Dravidian; and between these two extreme forms there are a large number of intermediate groups, each of which forms, for matrimonial purposes, a sharply defined circle, commonly known as a caste, beyond which none of its members can pass. If these groups are arranged in the order of their average nasal index, or the formula indicating the proportion of the length of the nose to its breadth, so that the caste with the finest nose shall be at the top, and that with the coarsest at the bottom of the list, it is found that this order substantially corresponds

with the accepted order of social precedence. Mr. Risley, accordingly, bases the origin of caste entirely on distinctions of race. His theory is directly opposed to that of Mr. Nesfield, Ibbetson and others, who hold that caste originated from differences in the occupations of the people. There is a third theory, the traditional one, according to which caste is derived from an original fourfold division of the population into Brahmans, Kṣatriyas, Vaiṣyas and Sūdras. These three theories have been reviewed by Mr. E. Senart in 1896 in a little work on *The Castes in India*. He shows that none of these theories is capable of accounting for all the facts connected with caste. The essence of the latter lies in restrictions with regard to connubium and commensality. Such restrictions, however, are by no means confined to India, nor even to Aryan races. They are known to have existed among Greeks, Germans, Russians and other Aryan peoples; and it is probable that they also existed among the races that preceded the Aryan immigration into India. It is in them that we must look for the key to the origin of caste in India. Differences of occupation, race and religion contributed to the now existing divisions of caste, but the spirit and to a large degree the actual details of caste restrictions are identical with the ancient, world-wide, and especially Aryan, customs of restricting connubium and commensality. The abatement and final removal of these restrictions among the Aryan nations of the West is due, as Mr. Senart shows, to the growth of strong political and national feelings; and it is the absence of such feelings in India which probably accounts not only for the continued existence, but occasional new creations of caste in this country.⁸⁴

A survey of Assam, more with reference to its early history and languages, than to ethnology, was initiated by Sir Charles Lyall, K.C.S.I., in 1894, under the energetic direction of Mr. E. A. Gait, who in the previous year had published in the Journal of our Society an account of the Koch dynasty, which formerly ruled in Western Assam and the adjacent districts of Bengal. The immediate object was to make a search for originals or copies of the numerous manuscript *burāñjis* or histories which were believed to be in existence; but incidentally copper-plate inscriptions, coins, and other old records were also brought to light. Several very important copper-plate grants, found in Gauhaṭi, Nowgong, and Bargāon, were made over to me by Mr. Gait to be deciphered. They have been published by me in our Journal,⁸⁵ and help to clear up to some extent the obscure history of Assam in the earlier middle ages. They show that there were three dynasties, probably succeeding one another,

⁸⁴ See a Review in the *Journal of the Royal Asiatic Society* for 1897, p. 192.

⁸⁵ See volumes LXVI and LXVII, for 1896 and 1897.

in the tenth and eleventh centuries A.D. The first two of these dynasties appear to have belonged to foreign invaders, and to have included, between them, twenty-two kings. One of the grants (of Nowgong) was issued by Balavarman, one of the members of the second foreign dynasty. The third dynasty was an indigenous one and bore the surname of Pāla. Two of its members, Ratnapāla and Indrapāla, the second and fourth of the series, are represented by the Burgāon and Gauhaṭi grants.

The modern history of the Assam valley dates from the advent of the Āhōms, a Shan tribe who crossed the Patkoi and invaded Eastern Assam about the beginning of the thirteenth century, and who gradually extended their sway westwards over the whole of the Assam valley, which they continued to rule up to the time of the British occupation. It was the practice of the leading families and of the *deodhāis* or priests to maintain *buranjis* or histories, which were handed down from father to son and were periodically brought up to date. Many of these records were destroyed by order of one of the Rājas who discovered that they contained adverse criticisms of his rule, and others were lost in the troubles which followed the incursion of the Burmese at the beginning of the present century. A considerable number, however, escaped. Some of these were examined by an Assamese gentleman, named Kācināth Tāmuli Phukan, who compiled from them a vernacular history of Āhōm rule which was published at Sibsāgar in 1814. The present enquiries have resulted in the discovery of a number of manuscripts in the possession of the representatives of old families and of some of the tribal *deodhāis* or priests, which add very considerably to the information recorded by Kācināth. These *buranjis* are inscribed on oblong strips of bark of the tree *Aquilaria Agallocha*.⁸⁶ Those that belonged to old families were in the Assamese language, and were translated without difficulty. But those belonging to the *deodhāis* were in the old Āhōm language and character, the knowledge of which has almost died out and is now confined to a small number of elderly *deodhāis*. In order to obtain a translation of the latter a young Assamese was appointed to learn the language from the few *deodhāis* who can still speak it, and then with their aid to translate their *buranjis*. This work has now nearly been completed, and when it has been brought to a close, the materials will be utilised for the compilation of a complete history of Āhōm rule.

A search has also been made for inscriptions of the Āhōm kings on temples, cannon and copper-plates, and for coins issued from their mints.

⁸⁶ For a description of the method of preparing the bark, see Mr. Gait's paper entitled "An abstract of the contents of one of the Āhōm puthis" published in our *Journal*, Vol. LXIII, Pt. I, p. 108.

In all 28 temple inscriptions, 6 inscriptions on cannon, 48 copper-plates and 69 coins have been found and examined, the earliest of which dates from 1544 A.D. The information obtained from these sources has been utilised for checking the information recorded by Kācināth; and so far as they go, the result has been to confirm the accuracy of his chronology in a remarkable degree. The majority of the coins collected were in the Sanskrit language and Nāgarī character, but some of them were in the Āhōm language and character. These latter, which have long been a puzzle to numismatists, were deciphered by the Āhōm translator, and the readings were published by Mr. Gait, in 1895, in our Journal, together with information on the Āhōm system of chronology. In the same volume of our Journal, Mr. Gait also gave some account of the coinage of the Koch kings.⁸⁷

Previous to these enquiries, very little was known of the history of the Rājās of Jaintiā who ruled over the Jaintiā Hills and the portion of the Sylhet district which lies to the North of the Surma river. Some traditions regarding these kings have been collected, and ten coins and five copper plates have been found, which prove the accuracy of a traditional list of twenty kings, so far as the last fourteen names in it are concerned, and furnish materials for forming a fairly accurate estimate of the dates when they ruled. The results arrived at were published by Mr. Gait in 1895 in our Journal.⁸⁸

The state chronicles of the kings of Manipur have been translated under the order of Colonel H. St. P. Maxwell, C. S. I., the Political Agent and Superintendent of the State. The chronicles professedly commence with the birth of the first king of Manipur in 334 A.D., but cannot be relied on for a narrative of actual fact until the early part of the fifteenth century.

In addition to the above, a number of manuscripts containing traditions of old rulers, legends and mythology, have been collected and translated, and a list has been prepared of all known books and papers bearing on the history, ethnology, &c., of the Assam Province.⁸⁹

Since the publication in 1880 of my Comparative Grammar of the Gaudian Languages, no material progress has been made in our general knowledge of the Sanskritic languages of Northern India. In some points of detail, however, there has been a considerable advance, and this has been almost wholly due to the researches of my colleague in these studies, Dr. G. A. Grierson, C.I.E. They principally concern the

⁸⁷ See our *Journal*, Vol. LXIV, pp. 237 and 286.

⁸⁸ See Vol. LXIV, p. 242.

⁸⁹ The account of the Assam Survey is based on a note kindly supplied by Mr. Gait.

grammars of the Kāçmīri language and of the dialects of Bihār and the Panjāb, and are too technical to be of general interest. Those whom it may interest, I must refer to Dr. Grierson's learned essays published in our Journal.⁴⁰

We may, however, now look forward to a great advance over the whole field of the North-Indian vernaculars, as the result of the Linguistic Survey which is at present proceeding under the direction of Dr. G. A. Grierson. That scholar first mooted the idea of such a survey before the International Congress of Orientalists held in Vienna in 1886. As a result a vote was passed by the Congress urging on the Government of India the importance of preparing a detailed survey of the languages and dialects spoken in this country. The suggestion was favourably entertained by the Government of India, but, owing to various causes, it could not be given effect to for some years, and then only in a modified form. The scheme which was ultimately approved of, and which since 1895 is in operation, comprises the following points. First of all, a rough unscientific catalogue is being made of every known language spoken throughout India, excluding Burmah and the Madras Presidency. The examination of the languages spoken in these two provinces is left to a future opportunity. The area to be investigated, therefore, consists of the Panjāb, the North-West Provinces and Oudh, the Lower Provinces of Bengal and Assam, the Presidency of Bombay, the Central Provinces, and Rājputānā. Attempts will also be made to investigate, as far as possible, the languages of Kashmir and the Himalayan States along the North of Hindustan. This large area includes practically the whole of the Aryan-speaking population of India, besides the languages of hundreds of aboriginal tribes speaking Muṇḍā and Tibeto-Burman languages. These rough lists are compiled from returns supplied by local officers. Each District Official and, in the case of Independant States, each Political Officer was given a printed form which he was requested to fill up, naming every dialect and form of language, under the appellation by which it is locally known, spoken in the tract under his charge. All these forms have already been received back from the local officers, and the Rough List is in active course of preparation.

⁴⁰ See his *Essays On Bihārī declension*, Vol. LII, 1883; *Grammar of Chattisgarhī*, Vol. LIX, 1890; *Specimen and Analysis of Padmāvatī*, Vol. LXII, 1893; *Pronominal suffixes in Kāçmīri*, and *Radical and Participial Tenses of the Modern Indo-Aryan Languages*, Vol. LXIV, 1895; *Irregular Causal Verbs* ibidem, *Kāçmīri Vowels System*, and a *List of Kāçmīri Verbs*, Vol. LXV, 1896; *Kāçmīri Consonantal System*, Vol. LXVI, 1897. See also his *Seven Grammars of the Bihārī Language* published in 1883-1887, and the Rev. T. Bomford's essays on Western Pañjābī in Vols. LXIV and LXVI of our *Journal*.

The lists for the Lower Provinces of Bengal, comprising Bengal Proper, Bihār and Orissa, for the Central and North-West Provinces and Oudh and for the Panjāb are complete and in the Press, while those for Rājputānā and Assam are nearly ready, but have not yet been sent to Press.

Dr. Grierson has been good enough to permit me to inspect advanced proofs of those portions which are in the Press. I am thus in a position to explain the composition of the two parts of the Rough List. In the first part, languages are arranged according to local areas. Each local area, or district, is taken in order, and each language spoken in it, together with the estimated number of speakers, is stated, family by family, as it occurs. Languages, indigenous to the district and those spoken in it by non-domiciled immigrants, are distinguished by a difference in the printed type. The second part is like a reversing dictionary. Here languages are arranged according to families and groups, and under each dialect is recorded the name of each local area in which it is spoken. Here too a difference in the arrangement indicates the localities of the dialects spoken by the settled and the immigrant populations.

These lists are being prepared with as great regard for accuracy as is possible, but they have the defects of their origin. The original returns have been prepared by persons with local knowledge, but who do not pretend to be philologists. They may be taken as representing what intelligent local people consider to be the languages of their own neighbourhood. They give names, but they are names only. We are told, for example, that Bangālī is spoken in such and such a place, but we are not told what is meant by the word "Bangālī." It is probably the language which Europeans call Bengali, but it may be something else. In the Central Provinces many thousands of Gonds have abandoned their ancestral language, and now speak a barbarous Hindi. In many cases this has been returned by local officers as Gondi, and it will be necessary, therefore, to test every entry regarding that language, in order to see whether the language referred to belongs to the Dravidian or to the Aryan family of speech.

The decision of these and similar questions is one for linguistic experts, and it is to provide experts with materials for coming to a decision, and thus to render the survey complete and of scientific value, that the second portion of the scheme has been devised and, it is hoped, will be approved of by the Government of India. As soon as the rough list of a Province is complete, translations into every language, indigenous to each district, will be called for from each local officer. One standard passage has been selected for these translations, namely the

Parable of the Prodigal Son. As these translations will in many cases be made by persons who do not know English, a collection of some sixty-five specimen translations of the parable into various Indian languages has been prepared. It is probable that the person selected to translate in each case will be acquainted with at least one of the languages of which a specimen is given. But as every translation will probably be more or less stiff, efforts will be made to procure at the same time an original folktale, song, or other naturally spoken sample of the language. When all these translations have been collected, they will have to be examined, and with their aid each language mentioned in the rough lists will have to be classified under its proper name and family. It is to be hoped that these translations, or at least selected specimens of them, may be published; for if properly edited, they will form a valuable collection of evidence as to the actual linguistic condition of India. When once the rough lists have been corrected and the translations published, we shall for the first time be able to say what languages are spoken in Northern India, and how many people speak in each. We shall also, incidentally, acquire a complete collection of specimens of all the written characters used in that country.

It is obvious that the second part of the survey which is yet to be made is the far more important of the two. In fact, the first part, by itself, with all its unverified statements, has no practical value, certainly none of any scientific character. Its value lies solely in the fact of its furnishing the basis for the scientific survey. It is, therefore, much to be hoped that nothing may occur to stop the survey at the stage which it has now reached, but that the Government of India may place Dr. Grierson in such a position as will enable him now to devote his whole time to the prosecution of the remaining scientific part of the survey, for which he is exceptionally well fitted, and thus to bring to a successful end the great undertaking which he has initiated, and which will reflect so much credit on the Government of India.

It must be remembered that such a linguistic survey, in addition to its own proper purpose, is most valuable on account of the fresh light it throws on unsettled points of history and ethnography. Thus there is the tribe of Abhirs or Ahirs, well-known in ancient Indian history. Its identity and habitat has always been a very vexed question. The linguistic survey, at last, has supplied the answer. It has brought to light the Ahīrvāṭi or Ahīrvāli, a dialect of Western Hindi, which is spoken in the district of Gurgāon and the neighbouring native states by as many as 300,000 people, a large number of whom are still Ahirs. These Ahirs of Gurgāon are an important tribe, from whom anciently their country took the Sanskrit name of *Abhīravartta*;

and this, in its turn, in a corrupted form, has given its name to their dialect of Ahirvālī.⁴¹ I may give another instance. The last census gives only 4,500 Kōches in Bengal. The Kōches are a strong Tibeto-Burman race, which certainly once occupied a large portion of Bengal proper. Now the linguistic survey has discovered 217,500 more of these Kōches who live in the North-Central Districts of Rājshāhi, Purnea and Malda. This illustrates how important it is to go on with the survey, and not to stop it in its present half-finished condition.

I have already remarked that we may fully expect the results of the Linguistic Survey to lead to great advances of our knowledge of the history, the inter-relation, and distribution of the languages of Northern India. In order to show what we may expect in this direction, I cannot do better than communicate to you the substance of a note which Dr. Grierson has been good enough to place in my hands.

The extensive studies which I made of the North Indian vernaculars, when I was preparing my Comparative Grammar of the Gaudian Languages, had led me to the conclusion set out in the Introduction to that Grammar, that there must have been two consecutive Aryan invasions of India, and that the second set of invaders entered the domains of the first "like a wedge." Dr. Grierson informs me that all his studies, subsequent to that publication, have confirmed, in a most striking way, my theory, which even then was not an altogether new suggestion. He is of opinion that it will ultimately be shown that there are much plainer signs of this double invasion in ancient Indian Literature, than has hitherto been supposed. Thus he believes it can be shown that the war between Viçvāmitra and Vaçiṣṭha was a war between these two tribes, in which Vaçiṣṭha represents the first comers, and Viçvāmitra represents their new-come rivals, who had settled on the Sarasvatī, and had already driven the older tribe, partly to the East to beyond the Gaṇḍak and into Maḡadha, partly South into the Pañcāla country, and partly West to the banks of the Indus, where Sudās, Vaçiṣṭha's master, lived. He further believes that the Kuru-Pañcāla war of the Mahābhārata was in its essence a struggle between these two tribes, the Kurus representing the new-comers and the Pañcālas the old ones; and that if this theory is borne in mind in reading the Vaçiṣṭha-Viçvāmitra hymns of the Rg-vēda and the Mahābhārata, and if a proper study is made of the geography of the period and of the tribes mentioned and the sides they took, it will receive remarkable confirmation.

⁴¹ Mr. V. A. Smith, in the *Journal of the Royal Asiatic Society* for 1897, p. 891, following Sir A. Cunningham, places the Ahīrs further south, between Jhansī and Bhilsā in the Gwāliyar State.

From the point of view of linguistics Dr. Grierson, in his note, shows that many new facts have come to light confirming my original theory. For instance, there is his discovery of the North-Western family, which completes the "wedge" theory. Then dividing the Aryan languages of India into two main families, a Central and a Non-Central, he shows that there is a remarkable series of opposed linguistic facts in the two. The Central family represents the new comers; the non-Central represents the first comers. Thus, the Central family is in the main a set of languages which are in the analytic stage. The original inflections have in the main disappeared, and grammatical needs are supplied by the addition of auxiliary words which have not yet become a part of the main words to which they are attached. Examples are the genitive suffix *ka* and the auxiliary verbs. Languages of the non-Central family have gone a stage further in linguistic evolution. They were once, in their Sanskrit form, synthetic; then they passed through an analytic stage—some are only passing out of that stage now, and are, like Kāçmiri, so to speak, caught in the act—and are again become synthetic, by the incorporation of the auxiliary words, used in the analytic stage, with the main words to which they were originally attached. Examples are genitive terminations like the Bangālī *ēr*, or verbal terminations like the Bangālī *ām*.

Then, again, Dr. Grierson points out that the non-Central languages evidently used enclitic pronouns from the first. Hence we find them using pronominal suffixes freely, all using them for verbs, and some for nouns. In the Central languages, on the contrary, pronominal suffixes are, so far as he is at present aware, unknown.

In pronunciation also, he shows, that the two main families are sharply opposed. It is hardly necessary to dwell on the well-known preference of the Central languages for *ō*-sounds, and of the other languages for *ē*-sounds. This is as old as the Açōka inscriptions. There are other preferences to which it is quite unnecessary to refer: they will at once occur to every philologist. A very remarkable difference is the treatment of the sibilants. The Central family hardens them: every sibilant is pronounced as a hard dental *s*. The non-Central languages seem unable to pronounce an *s* clearly. In the extreme west, the Greeks found *s* pronounced like *h*; and in the east, the Prākṛit grammarians found it softened to a *śh* sound, which they represented by *ç*. At the present day we find the same shibboleth a test of nationality: in Bengal and part of Marāṭha *s* is weakened to *śh*, and in Eastern Bengal and Assam it is further weakened, till its pronunciation resembles that of a German *ch*, and again on the North-Western frontier and in Kāçmir, it has become an *h*, pure and simple.

The limits of these two main families Dr. Grierson defines as follows. The Central main family is bounded on the north by the Himālayas, on the west by, roughly speaking, the river Jhelam, and on the east by the Kōsi. The western and eastern boundaries are very wide, and include a good deal of debatable ground in which the two main families meet and overlap. If these limits are narrowed so as to include only the pure languages of the Central main family, the western boundary must be placed at about the meridian of Sirhind in Patialā,⁴² and the eastern at about the meridian of Allahabad in the North-Western Provinces. The southern boundary is well defined. It runs east and west through a point about two-thirds of the way across the Central Provinces. On the west, the Central main family merges into Sindhi through Marwāri and Bāgri, into what Mr. Bomford names "Western Pañjābī" through Pañjābī, and into Kāçmiri through Gujarī, Dōgri, and other hill languages, so that the area covered closely corresponds with that of the ancient *madhya dēça* or Middle Country, the name of which is significant. We learn from the Mahābhārata that Kṛṣṇa, being defeated by Jarāsaṁdha of Magadha, fled from Mathurā to Gujarāt, where he founded a colony. At the present day Gujarāt is the only place where the Central main family has burst through the surrounding wall of non-Central languages. The language is a pure Central one. Pañjābī contains many unrecorded forms, for which the only explanation is that to the west of Sirhind, or, we may say, to the west of the Sarasvatī, the country was originally inhabited by tribes belonging to the non-Central family, who were conquered or absorbed by members of the Central family, whose language gradually superseded theirs just as Hindūstānī is now gradually superseding Pañjābī. Pañjābī is a Central language, but it contains many forms which can only have survived (if they were not imported) from an original non-Central dialect.

On the eastern side, the wider boundary includes Bihārī. Most of the Bihār dialects probably belong to the non-Central main family. Hitherto they have been grouped with languages like Avadhi and Baisvārī, which also probably belong to the Central main family. Provisionally, till the linguistic survey is complete, Dr. Grierson is inclined to class the true Bihārī dialects, viz., Pūrbī, Bhojpuri, Maithilī, and Māgadhī, as non-Central languages, belonging, like Bangālī, to the Eastern group, and Baisvārī and Avadhi and others as an Eastern group of the Central family.

⁴² Sirhind also means the head of Hindustan, and is still the recognised race-boundary point.

Thus Dr. Grierson arrives at the following classification of the languages of Northern India.

Central Family.

West-Central Group.	{	Western Hindi (including Urdū, Braj Bhāṣā, Rōhil-khaṇḍī, and the language of the Upper Doāb, called Pachāḍī).
		Bundēlkhaṇḍī.
		Rājasthānī (including Mārvārī, Māvārī, Bāgrī and Mālvi ⁴⁵).
		Gujarātī. Pañjābī.
East-Central Group.	{	Eastern Hindi (including Baisvārī and Avadhi).
		Baghēlkhaṇḍī.
		Chattisgarhī. ⁴⁶
Northern Group. ⁴⁵	{	Western Pahārī (including Kuluhī, Sirmurī and other connected dialects).
		Central Pahārī (including Garhvālī, Jaunsārī, and Kumaunī).
		Eastern Pahārī (also known as Naipālī, Khas or Parbatīā).

The Classification of the Non-Central family is simple.

North-Western Group.	{	Sindhī.
		Western Pañjābī.
		Kāqmīrī.
South-Western Group.	{	Marāṭhī.
		Bihārī. ⁴⁶
Eastern Group.	{	Bangālī.
		Assamese.
		Oriyā.

History of Old Calcutta.—The last subject on which I propose to touch in my address is one which concerns us "Calcuttaites" more nearly. It is the history of old Calcutta.

⁴⁵ The last may, perhaps, have ultimately to be classed as a separate language, or, perhaps, as a dialect of Bundēlkhaṇḍī.

⁴⁶ Possibly Chattisgarhī should come under the non-Central Family. Its classification under the Central Family is provisional.

⁴⁷ The language-names of this group are taken from the Census Report of 1891. The nomenclature is Mr. Baynes.

⁴⁸ In the rough lists of the Linguistic Survey, Bihārī is included in the East-Central Group. This is only provisional.

The origin of this city of ours has been the subject of investigation of two members of the Society, Bābū Gaur Das Bysack and Mr. O. R. Wilson. The former published a very interesting paper on this subject in 1891, in the *Calcutta Review*,⁴⁷ and the latter has given an account of his researches in a separate volume on the *Early Annals of the English in Bengal*, published in 1895.⁴⁸ The results of their investigations may be summarised as follows.

Down to the commencement of the sixteenth century Sāt-gāon was the centre of commerce in Lower Bengal. That town lay on the river Sarasvatī, near its junction with the Hūgli, a little to the north of the modern town of Hūgli. Early in the sixteenth century the Sarasvatī began to silt up; and in order to better meet the commerce with Europe, which then began to spring up, the native traders began to move down the river Hūgli, in consequence of which movement Sāt-gāon was deserted and sank into the obscurity of an insignificant group of huts.⁴⁹ Among those who deserted Sāt-gāon were one Sett and four Bysack families. They settled on the Hūgli at a place which they named Govindpur after their tutelary deity Govindji, and which stood on the site of the present Fort William and its Esplanade. At the same time they established a place of business a little higher up the river, as a mart for the sale of skeins of thread and woven cloth. It was hence called the Sūtānūtī Hāṭ or "the Cotton-bale Market," or in its English form Chuttanutti.⁵⁰ This place corresponds to the northern native quarter of the present city.

The immigration of the Setts and Bysacks occurred not long before 1530, in which year the first Portuguese ship sailed up the river Hūgli, and traded with them. The first settlement of the English in these parts took place in 1651, in which year the Company established its headquarters in Hūgli, near the now decaying town of Sāt-gāon. In 1686, however, they found themselves obliged to abandon it, and withdrew to the island of Hijili at the mouth of the Hūgli. On his way down the Hūgli, Job Charnock, who was in command of the Company's servants, halted for a few weeks at the Sett and Bysack settlement at Sūtānūtī. In the following year, having failed to establish himself in Hijili, he returned to Sūtānūtī, where he maintained

⁴⁷ See Article V, in No. CLXXXIV, p. 305, entitled "Kalighat and Calcutta."

⁴⁸ The "Introductory Account" is based mainly on the late Sir Henry Yule's edition of the *Diary of William Hedges, Esq.*, Vol. II, 1888.

⁴⁹ See Blochmann's account of Sāt-gāon in our *Journal*, Vol. XXXIX, p. 281.

⁵⁰ Pronounced Shuttanutti, as in Portuguese, whence the transliteration borrowed. See Wilson's *Early Annals*, p. 135, note 2. The name is found variously spelled: Chuttnauttee, Chuttanuttea, Chuttanutti, etc.; also Soota-Nutty.

himself for about one year, from September 1687 to November 1688; but ultimately, after an abortive attempt at Chittagong in 1689, he had to withdraw to Madras. From here he was recalled by the emperor Aurangzib, and in August 1690 came back for the third time to Sūtānuṭi, where he established the Company once more at the place they had occupied in 1688. This was just below the settlement of the Setts and Bysacks, and above their settlement at Govindpur, at a small village, called Kalikātā, or in English Calcutta, on the site of the present European commercial quarter and the Barā Bazār. Here the English traders lived at first as best they could in tents, huts and boats; but very soon "as the result of conciliating the Nawāb of Bengal's representatives, and of winning general confidence, Armenian and Portuguese merchants were attracted by the English, and as success followed industry, the settlement extended itself southward along the river's bank, bringing into the sphere of occupation the contiguous villages of Calcutta and Govindpur. When in course of a little time further a factory grew into existence, the Company's servants, who had learned the necessity of possessing some central stronghold, obtained permission, in 1696, from the Nawāb's Government to surround it with defensive fortifications."⁶¹ This was the old Fort William which stood on the site now comprised between Koilaghāt Street and Fairlie Place. Two years later, in 1698, through the indulgence of Prince 'Azimu-sh-Shān, the grandson of the emperor Aurangzib, they secured the leasehold rights of the three villages of "Chuttanuttee, Calcutta and Govindpur," which henceforth formed one united settlement. Thirteen years later, in 1717, they obtained from the emperor Farrukhsiyar a further grant of 38 villages, out of which several were added to the three villages already amalgamated. Afterwards others were, from time to time, brought within the bounds of the settlement, till at last these combined localities formed the city of Calcutta almost as it now is. "The designation of Calcutta is now applied not only to our city which has for its component parts many old villages with histories of their own, but to a Parganah which comprehends the city and many villages at various distances from it; and this Parganah again is one of several which pass under the name of the District of the 24 Parganahs."⁶²

The name of "Calcutta," in its English form, first occurs in two Reports submitted in March 1689, by Captain Heath and Job Charnock to the Company's Council in Madras, and refers to the second settlement of the English near Sūtānuṭi in 1688.⁶³ When they returned for

⁶¹ See Dr. Busteed's *Echoes from Old Calcutta* (3rd edition), p. 3.

⁶² See Baboo G. D. Bysack's paper, p. 320.

⁶³ See *Hodges' Diaries*, edited by Colonel Sir H. Yule, pp. lxxix and lxxxi.

the third time to Sūtānuṭi, they again settled on the lands of the "Calcutta" village; but the official designation of the settlement appears to have been "Chuttanutte," for the "diaries" are dated from there. How the change of name originated and the little village of Kalikātā came to give its name to the city of Calcutta is not yet fully accounted for. It seems to me that the change explains itself in this wise. The early diaries of the English Settlement between 1688 and 1698 are all called "Chuttanutte Diaries." These diaries always run from the December of the preceding year to the November of the following year. The diary for 1699, that is to say, for December 1698 to November 1699, is the first dated from Calcutta; for I find that the diary for 1704-5 is called the seventh from Calcutta.⁵⁴ It follows that the change of name, from Chuttanutte to Calcutta, must have taken place shortly before December 1698. Now in July 1698, the Company became the revenue collector, for the Moghul Government, of the three villages Sūtānuṭi, Calcutta, and Govindpur. In the Āin-i-Akbari, the village of Kalikātā (Calcutta) is enumerated as one of the *mahals* or revenue subdivisions of the District of Sātgaon.⁵⁵ As such it belongs to the fiscal survey, made in 1587, by Todar Mall, the well-known Finance Minister of the emperor Akbar. The villages of Sūtānuṭi and Govindpur, founded shortly before, in 1530, are not mentioned in the fiscal survey; they evidently lay within the fiscal subdivision of Calcutta. It is natural to conclude that when the English Company acquired the collectorate of that subdivision in 1698, they made its old and well-known fiscal name the official designation of their settlement, especially as their factory and fort lay within the limits of the village of Kalikātā.

For the very early age of that village a curious piece of evidence was discovered in 1892, by Mahāmahōpādhyaya Pandit Hara Prasād Shāstri.⁵⁶ He found in an old manuscript an account of a voyage down the river Hūgli, written in 1495 by a Bangālī author named Bipra Dās. That writer enumerates all the towns and villages which the voyager, a certain Cānd Sadāgar, passed on both sides of the river. Among them occurs the village of Kalikātā, but neither Sūtānuṭi, nor Govind-

⁵⁴ See Wilson's *Early Annals*, p. 236, where it is called *Calcutta Diary No. 7*. The full name of the Calcutta diaries was *Diary and Consultation Book of the London Company's Council at Fort William in Bengal*. This is accounted for by the fact that the Old Fort was completed in 1697, just before the change of name took place.

⁵⁵ See Colonel Jarrett's Translation, Vol. II, p. 140. The Āin-i-Akbari was completed by Abul Faḥl in 1597. See also Mr. J. Beames' paper in the *Journal*, Royal Asiatic Society, for 1896, p. 102.

⁵⁶ See his paper in our *Proceedings* for 1892, p. 193.

pur, which circumstance shows that while Kalikātā existed in 1495, the other two villages did not.

The idea still much entertained that Calcutta has received its name from the celebrated shrine of Kālighāt on the "Old Ganges," is altogether wrong. Not to mention the philological difficulties which are fatal to the identification of *Kalikātā* with *Kālighāṭṭa*, their identity is totally precluded by the fact that in 1495 both localities were in existence and occupied the same, or nearly the same, places as they do now. Bipra Dās's voyager, having come by the town of Hūgli and other places, passed the village of Kalikātā, and journeying on reached Bētūr, near the modern Shibpur, and thence he went on to Kālighāt, where he worshipped at the shrine of Kālikā. The fact is that the derivation of Calcutta from Kālighāt is one of the many utterly unfounded popular etymologies. Its real derivation is still quite unknown. The probability is that it is a word from some aboriginal language: and this would be the only one more evidence pointing to a considerable antiquity for the site of Calcutta.

With regard to the origin of the Kālighāt shrine, I may add that according to a current tradition it was founded, early in the fifteenth century, by an ascetic called Jangal Gir Chaurangi. "One evening he was performing his devotions by the bank of the "Old Ganges" which was then a great stream flowing south of Calcutta, when suddenly a bright light shone round about him, and that same night, when he had gone to sleep, the goddess Kālī appeared to him in a dream, and told him that the spot was one of those holy places which had once received a portion of her severed body. The next day he dug up the ground, and proved the truth of his vision. The sacred emblems thus miraculously found, being the toes of her right foot, were set up for worship in a small wooden house on the bank of the Ādi-Gangā."⁶⁷ From the original founder of this wooden shrine, our well-known fashionable quarter, now known as Chowringhee, but which at that time was a wild jungal, is supposed to have obtained its name. The present substantial temple was erected in 1809 by the Sāvarṇa Chaudharis of Behālā.

The story of the Black Hole, as you know, is intimately connected with the Old Fort William, which as I have already remarked, was built in 1696-97. At the time of that tragedy, in 1756, Calcutta "extended in a crescent along the bank of the river from north to south for about three miles (say from modern Chitpur Bridge to the site of the present Fort). Standing nearly midway between those limits was the little Old Fort. The houses of the English inhabitants were scattered in

⁶⁷ See Wilson's *Early Annals*, pp. 129, 130.

large enclosures for about half a mile to the north and south of the Fort, and for about a quarter of a mile to the east of it. Beyond the English houses were closely clustered the habitations and huts of the natives; the better classes of them, such as the Setts and Bysacks, dwelt to the north, the lower sort in the Bazars to the east and south."⁵⁸ The story of the tragedy of the Black Hole is well-known, and I need not repeat it, but till the commencement of the period I am now reviewing its exact site was very imperfectly known. For the exact determination of it we are indebted to two members of our Society, Messrs. R. R. Bayne and C. R. Wilson. The results of their investigations are published in our Journal,⁵⁹ and may be thus summarised. In 1880, when the new East India Railway Offices were being erected in Clive Street, the excavation made for the foundation of these Offices laid bare the remains of an old wall. Mr. Bayne, who was in charge of the works, knowing that he was working on the locality of the Old Fort William, at once resolved to utilize as well as he could the opportunity of determining its topography. In February 1883, he laid before the Asiatic Society the results of his investigations. Unfortunately they suffered under two disadvantages. In the first place, the portions of the old building actually excavated were on the northern and least interesting side of the Fort. In the second place, Mr. Bayne had no proper plan to guide him in his conjectures as to the position and nature of the remaining portions of the Fort. When Mr. Wilson resumed the investigations in 1891, he could do so under far more favourable conditions owing to the erection of the New Government Offices in Dalhousie Square. He also had the advantage of being guided in his excavations by a detailed plan of Fort William in 1753, a photographed copy of which was presented to the Society by Mr. T. R. Munro. He thus succeeded in discovering considerable remains of the buildings on the south side of the Fort, where the Black Hole and other places of interest had been situated. In fact, his investigations were so successful that it was found possible to draw up a plan of the Old Fort, accurately showing its position with reference to the modern houses now standing on or near its site, together with the main features of its principal buildings. He first discovered the true dimensions and position of the east gate of the Fort. The gate was found to be much smaller than Mr. Bayne had conjectured it would be. Its centre lay on the central line of the road in front of Writers' Buildings, which has always been one of the principal streets of the city. In the next place, Mr. Wilson traced out, as far

⁵⁸ See Dr. Basteed's *Echoes of Old Calcutta*, p. 5.

⁵⁹ See Volume LII, p. 105, and Vol. LXII, p. 104.

as was possible, the main features of the factory within the Fort, in which were situated the apartments of the Governor. This was in its day one of the finest English houses in India. It consisted of a main building facing the river, with two wings behind at right angles to the main building. Almost all the foundation walls of these wings were traced out by excavations, and the position of the walls of the main building was ascertained, although the walls themselves could not be traced out, as the site of the main building is at present occupied by the Government Opium Godowns and by the out-houses of the Custom House. Mr. Wilson also endeavoured as far as possible to ascertain the position of the south curtain, of the south-east bastion, and of that portion of the east curtain which lay between the south-east bastion and the east gate, together with the adjoining arcades and chambers. Considerable difficulty was experienced by him in coming to any definite conclusion on these points; for, in the first place, the Post Office covers the site of the south-east bastion and the adjacent south curtain wall, and so prevents any extended excavations in this region; and in the second place, the plan of the old Fort, which has elsewhere proved to be extremely accurate, seems at this point to fail. Still, in spite of these difficulties, Mr. Wilson was able to definitely fix the position of the south curtain wall and of three parallel lines of arches within it, and to show that tradition was right in asserting that the old arcade and arches which still stand in the Post Office compound were part of the old Fort. The arches of the south face of this arcade are what remains of the first line of arches within the south curtain, and the arches in the middle of the arcade are what remain of the second line of arches. The foundation wall of the third and innermost line of arches was traced out for some distance. It was found in the passage on the north of the Post Office. Starting from this wall, or, what is practically the same thing, from the north face of the Post Office, Mr. Wilson traced out the east curtain wall as far as the east gate, the inner wall containing the chambers built against the curtain, and the wall of the piazza or verandah running west of the chambers. The Black Hole prison was one of these chambers; but to fix its exact position it would have been necessary to ascertain, not merely the positions of the curtain wall and the inner wall, which formed its eastern and western walls, but also the position of the cross-walls which formed its northern and southern boundaries, and divided it off from the other chambers built against the east curtain. Unfortunately these cross-walls were run up with hardly any foundation, and hence it was found extremely difficult to trace their position. One such cross-wall was found at a distance of about 100 ft. from the centre of

the east gate, and to the south of this there is another cross-wall which Mr. Bayne discovered in 1883, and which according to his theories must have been the north wall of the prison. According to Mr. Wilson this cannot have been the case; because the space south of this cross-wall is shown by the plan of the Fort to have been occupied by the foot of the staircase leading to the south-east bastion, but he thinks it quite possible that it is the south wall of the prison. Concerning this and other points in the topography of the Fort additional information may perhaps be obtained hereafter by further excavations and by the examination of old records.⁶⁰

The history of the Company's Ecclesiastical Establishment in Bengal from its foundation in 1677 to the close of the eighteenth century has been explored by another member of our Society, the Rev. H. B. Hyde, and published in a series of ten short memoirs. The materials for these researches previous to the sack of Calcutta in 1756 were found almost wholly in the Company's archives at Westminster. Subsequent to that date a parallel series exists in the Vestry Records of St. John's Church, in the 'Ecclesiastical' records of the old Mayor's Court of Calcutta, and in the Consultations of the Public and Military Departments of the Bengal Government. The first Chaplain of 'the Bay,' John Evans, had a remarkable career which ended in the Irish Bishopric of Meath. This Mr. Evans was Chaplain of 'the Bay' at the time of the founding of Calcutta. His successors Benjamin Adams and William Anderson promoted the building of the first Presidency Church. This occupied a site now covered by the west end of Writers' Buildings and, as shown by the consecration documents which have been found in the Bishop of London's Registry, was dedicated on the 5th of June, 1709, to St. Anne, doubtless with complimentary reference to the name of the reigning sovereign. Specimens of the sermons of Mr. Anderson have been found in the British Museum; they curiously illustrate the disorderly state of the factory at that period. The next three Chaplains in succession filled the fifteen years previous to 1726, counting four intervals of two or three years each occasioned by Chaplains' deaths. The tomb of one of these victims of the climate is in the Dacca cemetery. During these fifteen years the project which resulted in the foundation of the Calcutta Charity School (now united with the Free School) was set afoot. The Parish Register of St. Anne's has been found in duplicate at the India Office, and the whole of it, from 1713 until the destruction of the Church by the Nawāb's army in 1756, has been transcribed and added to the Records of St.

⁶⁰ See the Annual Address in our *Proceedings* for 1892.

John's Church. In 1726 arrived a Chaplain who was destined to set the climate for 30 years at defiance, and then to perish not by any Indian sickness but by suffocation in the Black Hole; his name was Gervase Bellamy. He saw the old Court House, which occupied the site of the present St. Andrew's Kirk, built in about 1729. The building was first intended as a school house, but soon gave shelter to the Mayor's Court, and became the Calcutta Town Hall. Eventually Government took it over and still pay over the monthly rent of 800 sicca rupees on account of it to the Select Vestry of St. John's and the other Governors of the Free School. Bellamy witnessed also the furious cyclone of 1737, which, it appears, was not accompanied by an earthquake as is generally supposed, but in which the tall spire of St. Anne's was blown off. The traditions of this celebrated storm, as Mr. Hyde has shown, are much exaggerated. In 1743, Bellamy received a junior colleague in the Chaplaincy, the third successor of whom was Robert Mapletoft, who arrived in 1749. In the siege of 1756, this man was appointed a Captain-Lieutenant, and did good work on the defences. He perished among the refugees at Fulta, while Bellamy was found lying suffocated hand in hand with his son in the Black Hole. On the recovery of Calcutta from the Nawāb Sirājū-d-daulah, the first incumbent of the Chaplaincy was Richard Cobbe, R.N., who had accompanied Admiral Watson to Calcutta. He died after a few months' service. During his brief incumbency the Portuguese Church in Moorgihatta was taken over for English use and remained the presidency church until 1760. Cobbe was succeeded by Butler who in 1758 welcomed into the settlement the celebrated S. P. C. K. Missionary John Zachary Kiernander. He survived to see St. John's Chapel built in the ruins of the old Fort in 1760. In January 1762, a month after his death, he was succeeded by Samuel Stavely, R.N., who died nine months later. His colleague, William Hirst, R.N., F.R.S., was one of the most accomplished men who ever belonged to the Bengal Ecclesiastical Establishment. A long communication of his, respecting the great earthquake of 1762 and also an eclipse of the sun in the same year, is to be found in the Transactions of the Royal Society. Following Hirst, William Parry succeeded as Senior Chaplain in 1765, and Thomas Yate in 1769. The latter had a singular experience in being taken prisoner by the French and confined on board a French frigate and at the Mauritius. In both situations he suffered horrible hardships, and in the latter imprisonment he even prayed "that one of the soldiers might be permitted to shoot him through the head." He survived all his misfortunes, however, and died as first Garrison Chaplain of Calcutta in 1782. William Johnson became Senior Presidency Chap-

lain in 1784, and to his efforts is due the building by public subscription of the present St. John's which was consecrated in 1787. On his retiring from India in 1788, Thomas Blanshard became Senior and John Owen, Junior Presidency Chaplain. Of the latter a large private correspondence has been discovered, dated mostly from Calcutta and is not a little curious. In 1788 the presidency chaplains in conjunction with David Brown, the Garrison Chaplain, and Robartes Carr, the Chaplain to the Fourth Brigade, made an admirable effort to secure Government English Schools for the native population. Their memorial to Government on the subject is printed by Mr. Hyde in one of his memoirs. Nothing came of it, and indeed it appears to have been quite overlooked even by writers on Education in British India. In this same year the Ecclesiastical Establishment which then comprised nine Chaplains was put on a new footing. Brigade Chaplaincies were abolished and Barrackpur, Dinapur, Chunār, Berhampur, Fathgarh, and Cawnpur became quasi-parishes, with resident incumbents. Mr. Hyde has traced out the succession of Chaplains in each appointment until the close of the century, and collected a great number of personal *notitia* respecting each of them, especially regarding David Brown, who eventually became Senior Presidency Chaplain. He has similarly compiled in much detail the history of the Charity and Free Schools down to the close of the century.

Writers differ much in accounting for the origin of the Charity School: none seem to fix the date of its beginning early enough. Mr. Hyde points out that its establishment was a cherished project of Chaplain Briercliffe and the Society for Promoting Christian knowledge in 1713, and that in 1720 the scheme after many checks was actually afoot and Chaplain Thomlinson bequeathed Rs. 80 towards it. Mr. Hyde thinks that the school had been in existence some time before 1732: perhaps 1729 is as near a conjecture as can be made as to the date of its beginning work. It was first supported out of the income of the "Charity Stock" of the Church. The origin of this property must be sought very early in the history of the Chaplaincy. There existed in Hūgli, before the factory removed to Calcutta, an institution of "guardians of the poor," the funds of which arose from fines levied upon English officials of the factory who remained out late at night, who swore profanely, or who neglected attendance at divine worship. This institution seems to have disappeared in the dissolution of manners in the early years of the Calcutta factory, and local paupers had stipends from the Company's Cash. With the improvement of parochial organization on the consecration of the Church in 1709, such administration of charity passed, it is to be

presumed, naturally into the hands of the Select Vestry, with whom money must have slowly accumulated after the sacred building was finished and furnished; for all expenditure for repairs and establishment must have been borne by the Company, and Church Order required that alms should be collected at the Offertory for the benefit of the poor. The fund thus accumulating would have been augmented by legacies and donations, and it is known that the fees received for the use of palls at funerals went into it. The Charity Stock therefore must have been already of ancient origin, when its income became permanently devoted to the maintenance of the Charity School. In 1731, "an eminent merchant" (to be identified probably with Mr. Richard Bouchier) wrote home from Calcutta that there were eight boys on the foundation and about 40 others. The eight foundationers were "maintained and clothed after the manner of the Blue-coat boys at Christ's Hospital." After the sack of Calcutta the School was re-opened with 20 foundationers, and duplicate promissory notes for Rs. 20,000, representing the Charity Stock, were granted to "the Wardens of the Parish." Within a few years time the Court House (or rather the portion of it used for Magisterial purposes) was bringing in a rent of Rs. 2,000 a year. This in 1767 was increased to Rs. 4,160, and in 1776 to Rs. 6,180. Two years later the Government had taken over the whole building and fixed the rent at the rate still paid, viz., Rs. 800 a month. Out of the revenues thus realized from the Charity Stock and the Court House 20 boys were at this time maintained on the foundation of the School. On leaving School the boys were for the most part bound out as apprentices. In 1787 there were 30 boy foundationers, and four girls. In 1789 there was 25 boys and 16 girls. In 1789 the Free School was founded which soon coalesced with the Charity School. In 1793 there were 40 boys and 30 girls on the 'Charity,' and slightly larger numbers on the "Free" foundation. In the same year the Jaun Bazar property was purchased which the United School now occupies. In 1800 the two institutions were formally united, and possessed a united capital of something over two lakhs of rupees "independent of dead stock and contingencies." Some dieting bills of this period remain, and are curious particularly as recording prices. 18 seers of milk, and 25 loaves of bread each were reckoned to the rupee, six sheep cost Rs. 7-6-0, and Rice Rs. 1-4-0 a maund. By 5th April 1813, 252 children were entirely maintained by the Free School, and about 32 day scholars were educated with the rest under Dr. Bell's system. By 1817 the number of foundationers had arisen to 205 boys and 32 girls.⁶¹

⁶¹ The account of the Chaplaincy and the Charity School is from a note kindly supplied to me by Mr. Hyde.

And now, gentlemen, I offer you my sincere thanks for the honour you conferred on me last year in electing me your President. It will always remain one of my pleasantest recollections of India that I was permitted to close my career in this country with that distinction; and I have the additional satisfaction of knowing that in the Hon'ble H. H. Risley, C.I.E., I shall have a successor who is distinguished not only by his position in his own Service, but also by his achievements in scientific research.

The President announced that the Scrutineers reported the result of the elections to be as follows :—

President.

The Hon. Mr. H. H. Risley, C.I.E., B.A., I.C.S.

Vice-Presidents.

A. Pedler, Esq., F.R.S.

Dr. A. F. R. Hoernle, C.I.E.

The Most Revd. Archbishop P. Goethals, D.D., S.J.

Secretaries and Treasurer.

Dr. T. Bloch.

F. Finn, Esq., B.A., F.Z.S.

L. de Nicéville, Esq., F.E.S.

Surgeon-Major A. Alcock, M.B., C.M.Z.S.

Mahāmahopādhyaya Haraprasād Čāstri, M.A.

G. W. Küchler, Esq., M.A.

Other Members of Council.

Bābu Pratāpa Candra Ghōṣa, B.A.

Dr. G. Watt, C.I.E.

Dr. P. K. Ray.

R. D. Oldham, Esq., F.G.S.

Surgeon-Captain A. R. S. Anderson, B.A., M.B.

A. T. Pringle, Esq.

Surgeon-Lieut-Col. G. Ranking, M.D.

W. B. Colville, Esq.

The Rev. H. B. Hyde, M.A.

The Meeting was then resolved into the Ordinary General Meeting.

The Hon. Mr. H. H. Risley, C.I.E., B.A., I.C.S., President in the chair.

On account of the lateness of the hour, the minutes of the last meeting were taken as read and were so confirmed.

Sixty-eight presentations were announced, details of which are given in the Library List appended.

The following gentlemen duly proposed and seconded at the last meeting of the Society were balloted for and elected Ordinary Members:—

The Rev. J. Watt.

David Hooper, Esq., F.C.S., F.I.C., F.L.S.

Bābū Amritālāl Vasu.

E. B. Havell, Esq.

The following gentlemen are candidates for election at the next meeting:—

A. Scott, Esq., proposed by F. J. Rowe, Esq., seconded by R. D. Mehta, Esq.

H. S. Barnes, Esq., I.C.S., Personal Assistant to the Chief Commissioner of Assam, proposed by E. A. Gait, Esq., seconded by Dr. A. F. R. Hoernle.

Bābū Jadu Nath Sarkar, M.A., Premchand Roychand Student, Professor, Metropolitan Institution, proposed by Dr. Aṇṭoṣa Mukerji, seconded by Paṇḍit Haraprasād Čāstri.

Syed Hussein Bilgrani has expressed a wish to withdraw from the Society.

Dr. A. F. R. Hoernle exhibited some Central Asian Antiquities.

LIBRARY.

The following additions have been made to the Library since the meeting in January last:—

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Chicago, Ill. The American Antiquarian and Oriental Journal,—Vol. XIX, No. 5.

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Florence. Società Italiana di Antropologia, Etnologia e Psicologia Comparata,—*Archivio per L'Antropologia e la Etnologia*, Tome XXVII, No. 2.

Geneva. Société de Physique et d'Histoire Naturelle de Genève,—*Mémoires*. Tome XXXII, Part 2.

The Hague. Koninklijk Instituut voor de Taal-, Land-en Volkenkunde van Nederlandsch-Indië,—*Bijdragen tot de Taal-, Land-en Volkenkunde van Nederlandsch-Indië*, 6^e Volgr, Deel V, Aflevering 1.

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Rome. *Revista Geografica Italiana*, Tome IV, No. 10.

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Vienna. K. K. Geologische Reichsanstalt,—*Verhandlungen*, Nrn. 11-13, 1897.

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- Washington. Biological Society of Washington,—Proceedings, Vol. XI, pp. 241–82.
- Zagreb. Hrvatskoga Arkeoloskoga Drustva,—Vjesnik, Nove Serije Godina II.

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- PENROSE, CHARLES B. *Bacteriology in Pelvic Surgery.* 8vo. 1895.
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20

PROCEEDINGS
OF THE
ASIATIC SOCIETY OF BENGAL,
FOR MARCH, 1898.

The Monthly General Meeting of the Asiatic Society of Bengal was held on Wednesday, the 2nd March, 1898, at 9-15 P.M.

FRANK FINN, Esq., B.A., F.Z.S., in the chair.

The following members were present :—

Dr. A. R. S. Anderson, Dr. T. Bloch, W. K. Dods, Esq., The Revd. H. B. Hyde, L. de Nicéville, Esq., A. T. Pringle, Esq., Bābu Jadu Nath Sen, M. J. Seth, Esq., Mahāmahōpādhyāya Haraprasād Ćāstri, Paṇḍit Mahendra Nāth Vidyānidhi.

Visitors :—John Bathgate, Esq., Bābu Ballabha Chatterji.

The minutes of the last meeting were read and confirmed.

Seventy-two presentations were announced, details of which are given in the Library List appended.

The following gentlemen duly proposed and seconded at the last meeting of the Society were balloted for and elected Ordinary Members :—

A. Scott, Esq.
H. S. Barnes, Esq., C.S.
Babu Jadunath Sarkar, M.A.

The following gentlemen are candidates for election at the next meeting :—

Maharajah Prodyat Coomar Tagore, proposed by Surgeon-Major A. Alcock, seconded by Surgeon-Captain A. R. S. Anderson.

Herbert Stark, Esq., B.A., Head Master, Calcutta Madrasa, proposed by Dr. A. F. R. Hoernle, seconded by F. J. Rowe, Esq.

K. G. Gupta, Esq., C.S., proposed by Dr. P. K. Ray, seconded by Bābu Pratāpa Candra Ghoṣa.

Surgeon-Lieutenant C. J. Milne, M.B., proposed by Sir G. King, K.C.I.E., seconded by Surgeon-Major D. Prain.

Dr. E. J. Simpson has expressed a wish to withdraw from the Society.

The Secretary read the names of the following gentlemen who had been appointed to serve in the various Committees for the present year :—

FINANCE AND VISITING COMMITTEE.

Dr. A. R. S. Anderson.	C. L. Griesbach, Esq.
W. B. Colville, Esq.	R. D. Oldham, Esq.
Bābu Pratāpa Candra Ghoṣa.	A. Pedler, Esq.
The Most Revd. Archbishop P. Goethals.	Dr. P. K. Ray.

LIBRARY COMMITTEE.

The Hon'ble Mr. Justice Gurudās Bannarji.	J. Mann, Esq.
Bābu Gaurdās Baṣāk.	Dr. Ācutoṣa Mukerji.
Bābu Pratāpa Candra Ghoṣa.	Mahāmahōpādhyāya Nilmaṇi Mukerji Nyāyalaṅkāra.
The Most Revd. Archbishop P. Goethals.	Mahāmahōpādhyāya Mahōṣa Candra Nyāyaratna.
T. H. Holland, Esq.	A. Pedler, Esq.
The Revd. H. B. Hyde.	A. T. Pringle, Esq.
S. C. Laharry, Esq.	Dr. Mahēndralāl Sarkār.

Dr. G. Watt.

PHILOLOGICAL COMMITTEE.

Maulvie Ābdus Salam.	Mahāmahōpādhyāya Mahōṣa Candra Nyāyaratna.
Maulvie Āhmad.	F. E. Pargiter, Esq.
Sir Saiyed Āhmad.	Captain D. C. Phillott.
N. D. Beatson-Bell, Esq.	Paṇḍit Satyavrata Sāmacramī.
Bābu Gaurdās Baṣāk.	Rai Rāj Kumār Sarvādhikāri
Bābu Nāgēndra Nāth Vasu.	Bāhādur.
Dr. A. Führer.	Dr. Mahēndralāl Sarkār.
Bābu Pratāpa Candra Ghoṣa.	Dr. M. A. Stein.
Dr. G. A. Grierson.	Mahāmahōpādhyāya Candra Kanta Tarkalaṅkāra.
J. Mann, Esq.	Dr. G. Thibaut.
Dr. Ācutoṣa Mukerji.	A. Venis, Esq.
Mahāmahōpādhyāya Nilmaṇi Mukerji Nyāyalaṅkāra.	

COINS COMMITTEE.

J. A. Bourdillon, Esq.	Bābu Panchanana Mukerji.
W. B. Colville, Esq.	C. J. Rodgers, Esq.
Dr. A. Führer.	Dr. J. Scully.
L. W. King, Esq.	V. A. Smith, Esq.
	E. Thurston, Esq.

HISTORY AND ARCHÆOLOGICAL COMMITTEE.

The Hon'ble Mr. Justice Amir Ali.	The Most Revd. Archbishop P. Goethals.
Babu Gaurdās Baṣāk.	The Revd. H. B. Hyde.
Dr. A. Führer.	Paṇḍit Mohanlal Vishnupal Pandia.
Bābu Pratāpa Candra Ghoṣa.	Dr. M. A. Stein.
	C. R. Wilson, Esq.

NATURAL HISTORY COMMITTEE.

Dr. A. R. S. Anderson.	A. Pedler, Esq.
J. F. Duthie, Esq.	Dr. D. Prain.
T. H. Holland, Esq.	Dr. J. Scully.
C. S. Middlemiss, Esq.	R. E. S. Thomas, Esq.
Dr. Fritz Noetling.	E. Thurston, Esq.
R. D. Oldham, Esq.	Dr. G. Watt.

PHYSICAL SCIENCE COMMITTEE.

Dr. A. R. S. Anderson.	Dr. Ācutoṣa Mukerji.
Dr. J. C. Bose.	Dr. Fritz Noetling.
P. N. Bose, Esq.	R. D. Oldham, Esq.
J. Eliot, Esq.	A. Pedler, Esq.
J. H. Gilliland, Esq.	Dr. D. Prain.
T. H. Holland, Esq.	Dr. P. C. Roy.
The Revd. E. Lafont.	Dr. Mahēndralāl Sarkār.
C. S. Middlemiss, Esq.	Dr. J. Scully.

Mr. Frank Finn, Deputy Superintendent of the Indian Museum, exhibited some living specimens of the Indian Goosander (*Merganser comatus*), and read the following note on its walking powers.

The specimen of the Indian Goosander (*Merganser comatus* Salvadori) which I have the honour of exhibiting to-night has been very kindly lent to me for the purpose by Mr. W. Rutledge of Entally, who tells me that this is the only specimen of the bird he has ever received

in the course of his long and extensive experience as a dealer in living animals.

The bird being so rare in captivity, I have thought it worth while to point out, by means of this specimen, that Mr. Hume was mistaken in thinking that the species is unable to walk. He says (*Game Birds and Wildfowl of India*, Vol. III, p. 301): "On land one only sees them resting near the water's edge, and when disturbed they shuffle on their breasts into the river. I do not think that they can walk at all. Anyhow I have always seen them just half-glide, half-wriggle, breast foremost, and I think touching the rock, into the water."*

But from the actions of the bird now exhibited, it is easy to see that the Goosander can walk like other ducks, and does so in the same attitude as they, though it is naturally not so active on land as the less aquatic species. No doubt the birds seen by Mr. Hume were simply disinclined to stand up and walk properly when they had but a very short distance to go, and preferred the lazier method of locomotion he describes in the passage above quoted.

The following papers were read:—

1. *An ancient inscribed Buddhistic Statue from Çrāvasti.*—By DR. T. BLOCH.

The paper will be published in the *Journal*, Part I.

2. *Some new species of plants from the North-Eastern Frontiers of India.*—By SIR G. KING, K.C.I.E., M.B., LL.D., F.R.S., and SURGEON-MAJOR D. PRAIN, M.B.

The paper will be published in the *Journal*, Part II.

3. *The Later Mughals (1707–1803).*—By WILLIAM IRVINE, B.C.S., (retired).

The paper will be published in the *Journal*, Part I.

4. *On certain imperfectly known Points in the Habits and Economy of Birds. No. 1. On the position of the feet of the "Picarian" Birds and of Parrots in flight.*—By F. FINN, B.A., F.Z.S., Deputy Superintendent of the Indian Museum.

Although the habits of birds, more especially those connected with nidification and the care of the young, have been long and carefully

* The bird was here put down on the floor and made to walk about, which it did in the ordinary manner of ducks, though unwillingly, having probably not recovered condition after a long journey from the Hills. A specimen of the allied *Merganser*

studied, much remains to be done in the observation of living birds, even when these belong to quite common and well-known species. This consideration serves me for an excuse for introducing a few notes which I have been led to make on certain points in the economy of birds which appear to me to have been insufficiently studied, and to have, possibly, some bearing on the difficult problem of avian classification. Students of other groups of animals—I may instance Bats and Butterflies—avail themselves of peculiarities of attitude, etc., in their subjects for taxonomical purposes, and with regard to Birds I see no reason why such peculiarities as those to which I draw attention below should not be taken into consideration by systematic ornithologists equally with nidificatory, distributional, and dietetic variations.

ON THE POSITION OF THE FEET IN FLIGHT AMONG "PICARIAN" BIRDS
AND PARROTS.

I will first notice a point which has lately attracted considerable attention among ornithologists—the position of the feet in certain groups of birds when the members of these are on the wing. It may be taken, I think, as fairly settled that Waders and Waterfowl, Game-birds, Pigeons, and Birds-of-Prey, carry their feet behind when in full flight, irrespective of the length of those members. But with regard to the mostly short-legged *Picariæ* and the Parrots I am not aware that any observations have been made, and I have therefore taken particular notice of these birds, with the following results:—

To take the Parrots first. I long watched the common Indian Parrakeets (chiefly *Palaeornis torquatus*) when at large, in order to discover where their legs were placed when the birds were on the wing; but owing to the swiftness of their flight, and the fact that the feet are ordinarily concealed beneath the feathers of a flying bird, I was unsuccessful, till one day a *Palaeornis torquatus* got into the Bird Gallery of the Museum, and flying to and fro overhead, gave me an excellent opportunity of observing that its feet were carried behind. As the gallery is a very large one, and the bird took long flights, I have no doubt but that this is the normal position for the species, and very probably for Parrots in general.

Among the so-called "*Picariæ*," using the term in its widest sense, I have noted the carriage of the feet in flying Hoopoes, Kingfishers, Rollers, Hornbills, Barbets, Woodpeckers, and Cuckoos, and will now

Castor (not distinguished from the present species by Hume, who calls both *Mergus* *merganser* op. cit.), which I saw last year in the London Zoological Gardens constantly walked about quite freely, as did some Snaws (*Mergus albellus*) observed at the same time and place.

take each of these groups in detail as to this point. In Hoopoes I have been unable to get a sight of the feet of a bird flying at large, but by buying specimens of *Upupa epops* in the Calcutta Bazaar, and letting them out in my quarters, I found that the feet are constantly kept drawn up to the body, as the bird flies—never extended behind, at least in a room. In Hornbills, on the other hand in spite of the supposed alliance of these birds to the *Upupidæ*, the feet appear to be extended behind in flight. I saw this very distinctly at any rate in two specimens of the common black-and-white *Anthracoeros*; the bird in each case was a tame one, but flying out of doors. With regard to Rollers, I have suspected, from watching birds at liberty, that the common *Coracias indica* carries its feet behind; but I could not be certain till I let out a tame bird I had in my bedroom, and found that though the feet were at first allowed to hang like a crow's when starting, they were undoubtedly stretched out behind the bird when well under way.

Of Kingfishers I have observed more than one species. A *Ceryle rudis* I brought up from the nest and allowed to fly about at liberty for this very observation, distinctly carried its feet behind, as also do *Alcedo ispida* and *Halcyon smyrnensis*, as I have been able to observe with wild birds; though the former takes a lot of watching to determine a point like this! The Laughing Jackass (*Dacelo gigas*) carries the legs behind also, as I made out with the keeper's assistance in the fine aviary at the London Zoological Gardens, when in England on leave last year (1897).

With Barbets my only observations that were at all satisfactory were made on a specimen of *Thereiceryx zeylonicus* in a very large compartment of the Bird House in the Calcutta Zoological Gardens. Here this bird constantly kept its feet drawn up to the body when on the wing. Some Blue-cheeked Barbets (*Cyanops asiaticus*) in a smaller compartment in another house, did the same, but for reasons to be presently given I do not set so much value on this observation.

Of Woodpeckers I have observed only two individuals of our common Gold-backed Woodpecker (*Brachypternus aurantius*); a young female I kept myself and let out both in the open and in my room, and a male in the large aviary in the Zoological Gardens above referred to. Both birds carried the feet drawn up to the body like the Barbets, or like Passerine birds. In the case of Cuckoos I have observed, with wild birds, that both the Koël (*Eudynamis honorata*) and the Crow-pheasant (*Oentropus sinensis*) carry their feet behind when well under way. I have seen this particularly well in the case of the last species, whose feet in flight have exactly the same position behind as I have seen in

a Pheasant and a domestic Fowl, in England. A *Hierococcyx* appeared to have its feet drawn up in a short flight.

Domestic fowls, however, in their short flights, usually carry their feet in front, and this I noticed in a young *Centropus* I had free but tame in the Museum compound, and in a Koël in the large aviary above referred to. As this is done by Pigeons also when starting, though they afterwards extend their feet behind, I do not feel absolutely certain about the Woodpeckers, Barbets and Hoopoes, but as I never saw any backward extension of the feet in these birds, I think that the forward position is really the permanent one in them, though I should have liked a good look at a bird in a long flight overhead, at liberty if possible.

With regard to the Parrot and Roller, though these birds were confined, the former had plenty of room for a long flight, and as to the latter, I have never met with any bird which *first* extends its feet behind and *then* draws them up, so that I consider the observations on these as sufficiently conclusive for the species in question, if not for their allies.

From these experiences I conclude, that supposing the same habit of carrying the feet to run through a family, the forward position of the feet in flight probably characterises Hoopoes, Woodpeckers, and Barbets, and the backward one certainly obtains among Kingfishers, Rollers, Hornbills, Cuckoos, and Parrots.

5. On the different kinds of salutation used by the Santals.—By THE REV. P. O. BODDING, Mohulpahari, Santal Parganas.

(ABSTRACT.)

The Santals have different forms of saluting each other varying according to their mutual family position. Their social position has, on account of their patriarchal organization, no influence in this respect, as, e.g., even a *pargana* or overchief will have to bow to a poor rayot if this last one has a higher family position.

Equals alone salute each other in a manner equal on both sides; if one of the saluting parties has a higher family position than the other one, this is most clearly shown in their manner of saluting each other, the inferior person having to make his obeisance, the higher one receiving the salute. Their customs of salutation are beautiful.

The Santal name for salutation is *johar*, and they have four different kinds, viz. (1) *dobgh' johar* (lit., bow-salutation), used between all people of whom one has a higher family position than the other, and who have not to use any of the other kinds of salutation. The inferior person, whether man or woman, bows to the superior one, men in one way, women in another, and the higher one receives or acknowledges the salutation, men in their manner, and women in their.

2. *Bahqñharea johar*, used by *bahqñharea* (certain brothers and sisters-in-law) and by coparents-in-law, when of different sex. They bow to each other and keep their hands shadowing over their eyes.

3. *Baluea johar*, used between coparents-in-law, when of same sex. Their salutation is very elaborate and rather curious; it is fully described in the paper: they draw their hands backwards and forwards between each other (when men), butt each other's shoulders, etc.

4. *So johar*, used when the saluting persons from some cause or other do not know each other's mutual position. In this case they do not bow, but receive each other's salutation (just as they do in the first mentioned kind of salutation).

The now living Santals use to salute each other at festivals, ceremonials, coming on or from a visit, when meeting away from home, etc., but now as a rule not when meeting in their village. They do not salute an assembly of people *en bloc*, but must salute separately every body, or as many as they think fit or necessary of those present.

Some words are added about their manner of saluting their *bongas*, which is mostly done kneeling. They keep both their hands before their face with the finger-tips joined—called *jgrhat*—and then bow. The *jgrhat* is sometimes used by people crying for mercy, supplicating, etc., and is by custom imposed on an outcasted man, when he at the entrance to his village stands to receive those coming to receive him into the tribe again.

6. *Preliminary notes on an archæological tour with the Bunër Field Force.*—By DR. M. A. STEIN.

I have just returned from Bunër with Sir Bindon Blood's force and hasten to send you these brief preliminary notes regarding the objects of archæological interest I was able to examine during the short occupation of that territory.

You are aware that acting upon information and advice kindly given to me by Major Deane, at present political officer for Swät, Dir and Chitral, I had applied to the Punjab Government to be deputed with the punitive expedition against Bunër for the purpose of an archæological survey. Bunër which comprises the portion of the ancient *Udyana* situated between the Swät Valley and the Indus, had previously been wholly inaccessible to Europeans, and hence a *terra incognita* also from an antiquarian point of view. My application, thanks largely to the kind interest taken in the matter by Mr. Dano, the Chief Secretary to the Local Government, and my friend Mr. Maynard, the Junior Secretary, was readily approved by Sir Mackworth Young, our present Lieutenant-Governor.

When returning from my short Christmas tour into Lower Swāt I saw Sir Bindon Blood, the General Commanding the Malakand Field Force, who informed me of the early date fixed for the expedition, and very kindly promised me his assistance. I had just time to go down to Lahore and conduct the annual Convocation of the University. Then I hurried back and caught up the division on the 5th instant at Katlang while it was on the march to the Bunār border.

On the 6th we reached *Sanghao*, at the entrance of the Tang Pass, where there are several old sites from which interesting Græco-Buddhist Sculptures have at various times been obtained. Accompanying the General's reconnaissance up the defile I was able to trace the remains of an ancient road leading to the pass, though not so well preserved as those of the old roads over the Malakand and Shāhkōt Passes. On the following day the Tangē Pass was taken after some fighting, the main honors of which fell to my friends of the 20th Regiment Punjab Infantry whose Pathāns and Dōgrās climbed in splendid style the steep hills commanding the pass on the west. I watched the interesting engagement from the position taken up by the mountain batteries in action and climbed up to the pass soon after it was carried. With the troops of General Meiklejohn's Brigade I reached that evening the village of *Kingargalai* to the north of the pass.

From that place I was able to survey during the following two days numerous ruins of evidently old date. They cover a series of rocky spurs which descend from the higher ranges into the *Nawēdand* Valley on the west and into the valley leading down to the east towards *Bampōkha*. The ruins consist chiefly of strongly built dwelling-places raised on high masonry terraces. Their position on narrow ridges difficult of access and their massive construction make it clear that they were erected with a view to defence. Some groups of ruins resemble in fact small castles. Certain details of the construction leave no doubt as to these remains going back to pre-Muhammadan times.

Ruins of similar description I found in great number on various hill spurs visited from the next camp of the Brigade at *Juwar*. They point to the presence in earlier times of a large and well-to-do population a fact easily accounted for by the fertile character of the tract.

The resignation with which the Bunār tribes accepted their defeat and their ready submission to the terms of Government made the progress of the expedition through the country far more rapid than I might have wished for the purposes of my search. But this made it at least possible for me to move with a small escort to considerable distances from the camps,—a thing which among other border tribes

like the Āfridis or Waziris would manifestly have been out of question. I was thus able, at the expense of a good deal of hard marching and climbing, to visit most of the places on either side of the main valley of Bunēr where the information previously collected or ocular observation led me to expect ancient remains. The independence I thus enjoyed did yet, of course, not enable me to make up in the point of thoroughness for the disadvantages arising from want of time.

Among the objects examined in the side valleys to the north were rock-cut sculptures representing Īiva and other Hindu deities. They were found in two places at the foot of spurs descending from Mount *Ilm* which rises on the watershed between Swāt and Bunēr, and forms a very striking feature in the landscape of both territories.

These sculptures show that Buddhism which we know to have been prevalent in these regions for so long a time, was here as elsewhere in India closely associated with all popular features of the Hindu religious system. In connection herewith it is a matter of interest that my enquiries have shown Mount *Ilm* to be still a place of pilgrimage for the scanty Hindu population (chiefly Khattri traders) scattered through Bunēr and Swāt. The *Tirthas* visited by the pilgrims are situated close to the now snow-capped summit of Mount *Ilm*. Owing to the great height of the latter they could unfortunately not be reached from the nearest camps at Juwar and Pādshāh. Curiously enough the most sacred Muhammadan shrine of Bunēr, the Ziārat of Pir Bābā Šāhib, lies at the latter place, close to the foot of *Ilm*. Does the position of this shrine presuppose—as it certainly would were it found in Kashmir,—the previous existence of a popular Hindu or Buddhist place of pilgrimage in the neighbourhood?

Remains of stūpas I found at *Bhai* close to Pādshāh and at *Girardī* further to the west. But the more numerous and important ruins of this kind are situated in the main valley of Bunēr, that of the *Barandu* river. From Bampōkha down to Bājkatha in the east I traced a series of such ruins, some of them having monasteries of considerable size attached. Conspicuous among these remains are the great Stūpa and Sanghārāma, about 1½ miles below *Tursak*, the largest place of modern Bunēr. A trial excavation conducted here during the few available hours with the assistance of a small party of sappers brought to light a corner of the stucco-ornamented stūpa-base, and showed the great depth to which the original level of the several courts has been filled up with masses of débris. Weeks of work would be required for the proper clearing of this and similar sites.

That *Tursak* was an important place also in old times is made evident by the numerous ruins of fortified dwelling-places on the neighbouring heights.

Another place of importance for the ancient topography of Bunār is undoubtedly the site near the present *Sunigrām*. This village which bears an old Hindu name, occupies a position on the right bank of the Barandu River where it enters the broad open portion of the valley known as *Panjpau*. To the South of the village rises a high mound of rough masonry which must have once formed a Stūpa of at least 150 feet diameter. Close by is a remarkably well preserved ancient well with stairs leading down to the water. On a rocky ridge above the village and overlooking the valley are the comparatively well preserved ruins of a large monastery, built partly on high walled-up terraces. The walls and vaulted roofs of the several halls are of massive construction, and have stood the test of time and of other destructive agencies better than any other old buildings examined in Bunār. Unfortunately, treasure seekers have been at work here too. The Stūpa in front of the monastery has been dug into long ago, evidently for the sake of the relics deposited below it.

This fate has overtaken also the fine Stūpa which stands near the village of *Takhtaband*, a short distance to the east of *Sunigrām*. It still reaches to a height of over 50 feet from the ground. A broad cutting has been made to the centre of this mass of masonry and through its whole height.

All the Stūpas and other important structures were carefully measured with the help of the Surveyor supplied to me from the Public Works Department, and their plans will be given in the Report I am now preparing. It is very probable that some of these structures must be connected with the several sacred Buddhist sites which are mentioned by the Chinese pilgrims, in particular Hiuen Tsiang, as situated at some distance to the south of *Mungali*, the old Capital of Swāt, the present *Manglaur*. The survey now made of them will thus help to establish with greater certainty the ancient topography of the regions once comprised in *Udyāna*.

The rapid surrender of the Bunār tribes and of those of the neighbouring Chamla valley had made a further advance to the east towards the Indus unnecessary. The early withdrawal of the force by the route of the Ambēla Pass deprived me of the opportunity I had eagerly hoped for, to visit the heights of Mount *Mahāban*. It has always appeared to me that of the various locations suggested for Alexander's *Aornos*, that proposed by the late General Abbott who identified that famous stronghold with Mount *Mahāban*, was by far the most probable. But without a close examination of the actual topography of that mountain which has not yet been surveyed, no decisive evidence can be expected.

If *Mahāban* itself remained still inaccessible I had at least the

satisfaction of approaching it closer than has apparently been possible on any previous occasion. A rapid ride down the Chamla valley, close up to the border of Amazai territory did not reveal much of antiquarian interest, but enabled me to collect useful information about an extensive group of ruins, known as *Shāhkōt*, which crown the summit of the mountain. It would be hazardous to express an opinion as to their character or origin until they have actually been surveyed. But when will this time come?

It was on the last day of the occupation that I made this ride towards the snow-covered slopes of Mount Mahāban. When I returned in the afternoon to the Ambēla Pass, the rear guard of the force had already far advanced into that famous defile. What I saw last of Bunār territory had thus also the charm of historical associations, not less stirring because they were modern.

With reference to the above I may safely say that I have spared no effort to utilize to the full the brief twelve days I could spend on Bunār soil. What makes me regret more than anything else the shortness of the time allowed, is the fact that I was unable to see a single one of Major Deane's puzzling inscriptions *in situ*. My article published in the Bengal Asiatic Society's Journal (Part I, 1898, No. 1) shows that a number of these inscriptions "in unknown characters" have been found in Bunār territory. Several of the stones bearing such inscriptions, being of small size, have been removed by Major Deane's agents and deposited in the Lahore Museum. Others known as yet only from impressions, may be supposed to be still in their original localities. Three of the places where impressions had been taken, could actually be reached by me.

At *Tursak* where an impression had been obtained of an inscribed stone walled into a Mulla's house, almost the whole population had fled at the approach of the troops. No local information was thus available as to which of the twelve Mulla's houses contained this epigraphical relic, and the prolonged search made by myself and my people failed to bring to light the desired stone from the mud-plastered walls of the deserted dwellings. At *Nuwakili* and *Mullaisap*, two villages towards the Malandri Pass, which I visited from one of the last camps by a forced march of over 25 miles, the result was equally disappointing. The few villagers who had not taken to the mountains, could or, would not show the position of the stones. Considering the combined fanaticism and ignorance of the population, it can scarcely surprise that information of this kind which might be supposed to lead to the discovery of hidden treasures, etc., was withheld from one of the invaders. The limited time available and the smallness of my escort

made at the same time a thorough search of the neighbourhood quite impracticable. At neither of the two localities could I trace any ancient ruins overground.

I cannot conclude this brief account of my visit to Bunār without referring to the very great consideration which all the military authorities from General Sir Bindon Blood, the commander of the force, downwards have shown for my work. On no occasion did I apply to them in vain for needful assistance and personally I doubt whether a civilian on a similar mission could ever have met with a kindlier reception than that which was accorded to me among the officers of the Bunār Field Force. I feel particularly grateful to General Meiklejohn, Commanding the First Brigade, and his staff for the free scope they allowed for my movements. Nor shall I forget the excellent marching power of the escort furnished to me by his old regiment, the 20th Punjab Infantry, which enabled me to make full use of the freedom thus allowed to me.

I intend to complete here at Mardan, in the centre of the old Gandhāra my detailed report before I return to Lahore and the cares of the University office.

7. *Notes on the date of the composition of the Kavitta Rāmāyaṇa of Tulsi Das.*—By G. A. GRIERSON, C.I.E., PH.D., I.C.S.

Any fact which helps us to fix the date of the writings of Tulsi Dāsa is of importance to the history of Indian Literature.

The *Kavitta Rāmāyaṇa* of this poet is a collection of *Kavittas* written at different times. On page 97 of Vol. XXIII (1893) of the *Indian Antiquary*, I was able to show, from astronomical calculations, that the 171st *Kavitta* of the Uttara Kāṇḍa was written between 1612 and 1614 A.D.

Kavittas 163 to 177 are usually considered as forming a group by themselves referring to the plague which invaded India in the reign of Jahāngir.

In *Kavittas* 163–166, the poet addresses Īṣa, interceding on behalf of Benares, which is suffering from a terrible calamity, the people dying, as if from poison. In Nos. 167 and 168, he addresses Pārvatī in the same strain, and in both, he distinctly mentions the plague (*mahāmāri*). In 169, he addresses Hanumān, and again mentions the plague. In 170 he addresses Hanumān and Rāmacandra and again mentions the plague by name. In 171–173, he addresses Rāmacandra alone. In 171, he does not mention the plague. He refers to the oppressions which Benares is suffering from the Musalmāns. The astronomical reference in this *Kavitta* enables us, as I have shown elsewhere, to fix the date of its writing, as between 1612 and 1614 A.D.

In 172, he simply adores the name of Rāma, and in 173, he describes a terrible mortality which is occurring in the holy city. No. 174 admittedly has nothing to do with the plague. It is a *kavitta* in praise of a falcon. In No. 175, he entreats Hanumān and Rāmacandra to save the city from an epidemic. In 176 he entreats Rāmacandra to save the city from calamities under which it is suffering.

Finally, in 177 he describes how the city had been punished for its sins by an epidemic of plague, and how it had been saved by Rāmacandra in answer to the Poet's prayers.

Regarding this plague, I here give the following extract from the *Times'* Weekly Edition for January 28th, 1898 :—

How important these improvements in treatment are may be learned from the records of an outbreak which took place at Agra in the year of the reign of the Mughal Emperor Jahāngir (1605-1627). Its origin is narrated in the Emperor's autobiography as "a strange and wonderful tale," of which, however, his Majesty, after direct inquiry, vouches for the truth. The daughter of a family that had fallen victims to the plague saw one day in the courtyard "a mouse falling and rising in a distracted state. It was running about in every direction after the manner of drunkards and did not know where to go." A cat to which it was thrown nearly died, and soon afterwards the plague or bubo appeared in one of the female slaves and spread through the household, killing 17 people in the space of eight or nine days. The correspondence of this story with the supposed propagation of the plague in Bombay by infected rats brought in ships from China is significant. But even more striking is a preceding passage in the Royal autobiography, translated by Mr. Alexander Rogers for the *Indian Magazine* of the present month of January, 1898 :—

At this time those who were loyal represented that the disease of the plague (*ṭā'ūn*) was prevalent in the city of Agra, so that in a day 100 people, more or less, were dying of it. Under the armpits, or in the groin, or below the throat a lump comes and they die. This is the third year that it has raged in the cold weather and disappeared in the commencement of the hot season. It is a strange thing that in these three years the infection has spread to all the towns and villages in the neighbourhood of Agra, and there has been no trace of it in the *Fathpur Sikri*, and as far as for $2\frac{1}{2}$ *kōs* from Amāuābād to *Fathpur*. The people of that place have forsaken their own homes and gone to other villages.

So great was the terror of infection that those stricken were left to their fate, "and at last it came to such a pass that through excessive suspicion no one would come near them." If the origin of the disease

seems to present a resemblance, the difference in the treatment of the sufferers is more apparent. In both cases the popular instinct hit upon the precaution of segregation. But under the Mughal empire the segregation was effected by abandoning the victims; in our day it is in some measure secured by carrying off the victims to hospitals, where they receive the utmost alleviation that their malady permits and the best chance of recovery.

I have no materials at hand to check the dates given in this extract, but we may assume that the plague was at its height in Agra in the year 1618 A.D. We have thus a terminus before which the *kavittas* referring to the plague cannot have been written. We are also able to assert that the 171st *kavitta* cannot refer to the plague, as is generally supposed by native scholars, for it is written at least four years before A.D. 1618.

There is no reason to suppose that the *kavittas* were arranged in their present order by the poet himself. Even if they were, it is plain from the analysis given above that he did not group them rigorously according to subjects. We have the *kavitta* in praise of the falcon inserted amongst a number referring to the plague. I may note that this *kavitta*, in praise of the auspicious bird, is said to have been uttered by the poet when at the point of death. The bird flew across his vision, and he accepted it as a good omen.

NOTE:—The passage referring to the Plague is taken from the *Iuzak-i-Jahāngiri* (Sayyid Ahmad's edition, page 259). More references may be found in Elliot-Dowson's, Vol. VI, pages 346, 357, 405. The Plague first appeared in the Panjāb in the eleventh year of Jahāngir's reign (commenced 10th March 1616), or rather in the middle of the preceding year. When the Emperor came to Agra in the thirteenth year of his reign (= A.D. 1618), he found the plague at its height, and in connection with this the stories of the mouse and female slave, etc., are related. The plague is said to have lasted for 8 years.—T.B.

8. *Human Sacrifices in Ancient Assam.*—By E. A. GAIT, I.C.S.

The paper will be published in the *Journal*, Part I.

LIBRARY.

The following additions have been made to the Library since the meeting held in February last:—

TRANSACTIONS, PROCEEDINGS AND JOURNALS,

presented by the respective Societies and Editors.

Bombay. The Indian Antiquary,—Vol. XXVI, Parts 330-31.

Boston. Boston Society of Natural History,—Proceedings, Vol. XXVIII, Nos. 1-5.

Brisbane. Queensland Agricultural Journal,—Vol. II, Part 1.

———. Queensland Museum,—Annals, No. 4.

Calcutta. Indian Engineering,—Vol. XXIII, Nos. 6-9.

———. The Indian Lancet,—Vol. XI, Nos. 3 and 4.

———. Maha-bodhi Society,—Journal, Vol. VI, No. 10.

———. Photographic Society of India,—Journal, Vol. XI, No. 2.

———. Wealth of India,—Vol. I, Nos. 9, 10 and 12.

Christiana. Videnskabs-Selskabet i Christiana,—Forhandler, 1895.

———. Skrifter, 1895.

Copenhagen. K. Nordiske Oldskrift-Selskab,—Aarboger, II Række, Band XI, Heft 3 und 4.

———. Mémoires, 1896.

———. Nordiske Fortidsminder,—Heft 3.

Dresden. Gesellschaft Iris zu Dresden,—Deutsche Entomologische Zeitschrift, Band X, Heft 2.

Dublin. Royal Irish Academy,—Proceedings, 3rd Series, Vol. IV, No. 4.

Leipzig. Königl. Sächsische Gesellschaft der Wissenschaften,—Mathem.-phys. classe, Abhandlungen, Band XXIV, No. 2.

Liège. Société Géologique de Belgique,—Annales, Tome XXIV, No. 2.

London. The Academy,—New Series, Nos. 1342-45.

———. The Athenæum,—Nos. 3665-68.

———. Institution of Civil Engineers,—Minutes of Proceedings, Vol. CXXX.

———. Institution of Electrical Engineers,—Journal, Vol. XXVI, No. 131.

———. Institution of Mechanical Engineers,—Proceedings, No. 4, 1896.

- London. *Nature*,—Vol. LVII, Nos. 1473–76.
 ———. *Psychological Review*,—No. 3, 1896.
 ———. Royal Geographical Society,—*Geographical Journal*, Vol. XI, Nos. 1 and 2.
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PROCEEDINGS
OF THE
ASIATIC SOCIETY OF BENGAL,
FOR APRIL, 1898.

The Monthly General Meeting of the Asiatic Society of Bengal was held on Wednesday, the 6th April, 1898, at 9-15 P.M.

DR. A. F. R. HOERNLE, C.I.E., Vice-President, in the chair.

The following members were present :—

Dr. A. Alcock, Dr. T. Bloch, W. B. Colville, Esq., W. K. Dods, Esq., F. Finn, Esq., E. B. Havell, Esq., H. H. Hayden, Esq., D. Hooper, Esq., The Rev. H. B. Hyde, D. J. Macpherson, Esq., J. Mann, Esq., Dr. F. P. Maynard, L. de Nicéville, Esq., J. D. Nimmo, Esq., R. D. Oldham, Esq., Dr. D. Prain, A. T. Pringle, Esq., Babu Jadu Nath Sen, M. J. Seth, Esq., The Rev. J. Watt.

Visitors :—John Bathgate, Esq., Captain B. Novitsky, Babu Ram Brahma Sanyal, C. M. Z. S.

The minutes of the last meeting were read and confirmed.

Thirty-one presentations were announced, details of which are given in the Library List appended.

The following gentlemen duly proposed and seconded at the last Meeting of the Society were ballotted for and elected ordinary members :—

Maharajah Prodyat Coomar Tagore.
Herbert Stark, Esq.
K. G. Gupta, Esq.
Dr. C. J. Milne.

The following gentlemen are candidates for election at the next meeting:—

R. N. Mookerjee, Esq., of Messrs. Martin & Co., proposed by Babu Jadu Nath Sen, seconded by R. D. Mehta, Esq.

J. Bathgate, Esq., proposed by F. Finn, Esq., seconded by W. K. Dods, Esq.

The following gentlemen have expressed a wish to withdraw from the Society:—

Dr. A. Crombie.

T. W. Richardson, Esq.

Maulvie Abdul Kader.

Bābu Ram Brahma Sanyal, Superintendent of the Alipore Zoological Gardens, exhibited living specimens of the Egyptian Jerboa (*Dipus jaculus*).

The following papers were read:—

1. *A note on some Block-Prints from Khotan.*—By DR. A. F. R. HOERNLE, C.I.E. Plates I-II.

In my Presidential Address, published in the *Proceedings* for February last (page 68), I mentioned that I had in my possession twenty-one volumes, which had come from Khotan, in Chinese Turkestan. There is one point with regard to these volumes that I omitted to state, which I will now supply. They are not all *manuscript* books as it might appear from the connection in which I spoke of them. Some of them are block-prints. I had noticed this circumstance long ago, as well as two others, that the block-printed matter repeated itself on every page of the books, and that it was printed in different positions on their alternative pages. As this is a point of considerable interest, the notice of which I had unfortunately missed out in my Address, I will now enter into it a little more fully.

Most of the twenty-one volumes are certainly manuscripts. With regard to some I am not certain what they are, manuscript or block-print; but there are others which are undoubtedly block-prints. For on many pages the smudges of the square straight-lined margins of the blocks can be distinctly seen. Occasionally the block was provided with a square of raised straight lines enclosing the type, and this marginal square is printed off along with the enclosed type.

The printing was not always carefully done, occasionally the blocks were inked too much, and the prints are smudgy; at other times they were inked too little, and the print is almost illegible. When the print

Block Type.

Fig. 1.

1	אֶלֶּלְכֵּם	אֶלֶּלְכֵּם	1
2	וְיָחִידְכֶם	וְיָחִידְכֶם	2
3	לְכֹהֵנִי	לְכֹהֵנִי	3
4	וְיָחִידְכֶם	וְיָחִידְכֶם	4
5	וְיָחִידְכֶם	וְיָחִידְכֶם	5
6	וְיָחִידְכֶם	וְיָחִידְכֶם	6
7	וְיָחִידְכֶם	וְיָחִידְכֶם	7
8	וְיָחִידְכֶם	וְיָחִידְכֶם	8
9	וְיָחִידְכֶם	וְיָחִידְכֶם	9
10	וְיָחִידְכֶם	וְיָחִידְכֶם	10
11	וְיָחִידְכֶם	וְיָחִידְכֶם	11
12	וְיָחִידְכֶם	וְיָחִידְכֶם	12

Fig.

is repeated on the same page, the impressions were sometimes taken so close together that the margins of the prints run into one another.

The books which I shall describe in this Note fall into two varieties. One of them shows a text arranged in two columns, the other has a text in three columns, of which, however, two are identical with those of the first variety. The two varieties of text are shown in figures 1 and 2 of Plate I. To the first variety belong three of the five block-prints described in this Note; and one of these three forms a sub-variety, as will be shown below. In printing these books, accordingly, at least two distinct blocks must have been used; but the types cut on the two blocks exhibit a very striking similarity, as if one were copied from the other, so far as the identical portions of the text are concerned. The various modes in which the prints were taken from these two blocks will be explained under the description of each book.

(1) Block-print a. This was received by me from Captain Stuart H. Godfrey, along with two other volumes, on the 25th February last. It is, therefore, not included among the "twenty-one volumes" mentioned in my Address. Its pages measure $8 \times 10\frac{1}{4}$ inches. It consists of 32 "forms"; each form is made up of one sheet of paper, which is folded in the middle, thus making two leaves. Each form, accordingly, consists of two leaves, or four pages. The book is provided with two covers, each made up of four layers of paper pasted together to make a thick paste-board. The forms are stitched together, to make up a book, along the longer side of the leaves. The stitches are made with copper nails, held in position by small thin copper plates, attached to the two ends of the nails.

The block of type (Plate I, fig. 1) which is printed on the pages of this book measures, between the edging lines, nearly $3\frac{1}{4} \times 6\frac{1}{2}$ inches. Each page bears three impressions of it, placed side by side, parallel to the longer side of the page, and so that the head of the block is always turned to the outer edge of the page. The latter circumstance makes it necessary to turn round the book entirely, when, in reading, one passes from one page to the next following, though, of course, owing to the constant repetition of the same text, there was no need, in reading, to observe any particular order of the pages. On the right and left of each page there is left a blank margin of about one inch on either side. This reduces the space on the page to about $8\frac{1}{2}$ inches; and as three impressions of the block had to be accommodated within that space, they were placed so close together that the co-terminous edges of their type almost touch one another. To admit of this close printing, the enclosing straight lines had to be left uninked; and the edging lines of the block, therefore, (excepting occasional smudges) are not seen on the pages.

Only two pages, towards the middle of the book, make an exception to this arrangement. On these the impressions are placed the other way, parallel to the narrower side of the page. In this way only two impressions could be accommodated side by side; for these there was plenty of room; and accordingly the edging lines of the block were inked, and are seen on the page. On the other hand, with this arrangement there was not space on the page enough for four impressions; the space was too much for two, and too little for four impressions. Hence the other alternative was adopted of accommodating only three impressions on each page, by arranging them differently, and thus utilising the whole of the available space on the page. It seems natural to conclude that those two exceptional pages were the first trial pages. They form together the outer side of a folded sheet. The *modus operandi* seems to have been, to take a sheet, and fold it in the middle; then unfold it and place on it as many impressions as the two halves of it would take; then, after printing, to fold it again; and finally to bind the folded sheets into a book.

(2) Block-print β . This book was received by me in October last, together with 13 others, from Mr. G. Macartney. Its pages measure $5 \times 6\frac{1}{4}$ inches; and it consists of 35 forms, each made (as before explained) of one folded sheet, there being altogether 70 leaves. It has no special covers; only the two outside leaves are not imprinted. It is stitched with three copper nails, which are held in position by two copper slips, one in front and the other at the back of the book, along its longer side. These slips measure $6 \times \frac{3}{8}$ inches.

Each page bears one impression of the block (Plate I, fig. 1). The edging lines of the block are not shown, excepting occasional smudges. The impression of the type just fills the whole page, leaving only narrow margins on all four sides. The block must have been badly inked; for the impressions are only faintly visible. Column I, line 7, letter 1 exhibits a different reading; see pages 128 and 130.

(3) Block-print γ . This is also one of the thirteen books received from Mr. Macartney in October last. Its pages measure $11\frac{1}{2} \times 4\frac{1}{4}$ inches, and it consists of 40 forms, each made up of one folded sheet. It has no special cover: of the two terminal leaves, one is not imprinted at all, while the other is only imprinted on the inner side. It is stitched, in three places, along its longer side, with twists of paper. Each of these three twists is passed through two adjacent holes and tied into a knot.

Each page bears one full impression, and the major portion of another. Of the latter, the two first lines are wanting, for which the page afforded no space. The two impressions are placed so as to turn their heads to the edges of the page; their foot-lines (line 12 in fig. 1) accordingly meet in the middle of the page.

25	കകൾ ദൃഷ്ടം	31	ജനീ കുടുംബം	37	നഷ്ടം കുടുംബം
26	കുടുംബം കുടുംബം	32	കുടുംബം കുടുംബം	38	കുടുംബം കുടുംബം
27	കുടുംബം കുടുംബം	33	കുടുംബം കുടുംബം	39	കുടുംബം കുടുംബം
28	കുടുംബം കുടുംബം	34	കുടുംബം കുടുംബം	40	കുടുംബം കുടുംബം
29	കുടുംബം കുടുംബം	35	കുടുംബം കുടുംബം	41	കുടുംബം കുടുംബം
30	കുടുംബം കുടുംബം	36	കുടുംബം കുടുംബം		

A curiosity of this book is that it shows a few letters, apparently written in an altogether different script, inscribed in the middle of the blank space, which separates line 7 from line 8 of the text. See Plate I, fig. 3. They cannot have been, of course, on the block of the text; they might have been imprinted from separate small blocks; but they rather look as if they were inscribed by hand. They are shown on Plate II, in facsimile, and occur at irregular places in the book, as follows:—

Nos.	Sheet.	Leaf.	Page.	Nos.	Sheet.	Leaf.	Page.
(1)	1	2	4	(22, 23)	19	37, 38	73, 76
(2, 3)	3	5, 6	9, 12	(24, 25)	20	39, 40	77, 80
(4, 5)	5	9, 10	17, 20	(26, 27)	21	41, 42	81, 84
(6, 7)	6	11, 12	21, 24	(28, 29)	26	51, 52	101, 104
(8, 9)	7	13, 14	25, 28	(30, 31)	27	53, 54	105, 108
(10, 11)	11	21, 22	41, 44	(32, 33)	28	55, 56	109, 112
(12, 13)	12	23, 24	45, 48	(34, 35)	30	59, 60	117, 120
(14, 15)	15	29, 30	57, 60	(36, 37)	31	61, 62	121, 124
(16, 17)	16	31, 32	61, 64	(38, 39)	32	63, 64	125, 128
(18, 19)	17	33, 34	65, 68	(40, 41)	36	71, 72	141, 144
(20, 21)	18	35, 36	69, 72				

On each of the pages, above enumerated, two of these additional inscriptions occur. For each page has two impressions of the block and, therefore, two intermediate blank spaces. It will also be seen, from the numbering of the pages, that if a "form" is unfolded into an open sheet, the additional inscriptions all show on the same side of the sheet. Thus the "form" or sheet 3 folds into the leaves 5 and 6; then, the outer pages (or the obverse of the sheet) number 9 and 12, while the inner pages (or the reverse of the sheet) number 10 and 11. Here the additional inscriptions stand on the obverse side, on pages 9 and 12, while there are no additional inscriptions on the reverse side of the sheet, i.e., on pages 10 and 11. Accordingly, the obverse side of the sheet bears four additional inscriptions, i.e., two on each page. These additional inscriptions consist of 4 or 5 or 6 letters.

(4) Block-print δ . This is again one of the 13 books received from Mr. Macartney in October last. Its pages measure $5\frac{1}{2} \times 7\frac{1}{4}$ inches, and it consists of 37 forms, each made up of one folded sheet. It has no special cover; the first and last leaves are blank; so is the first page of the second leaf, and the second page of the penultimate leaf. It is stitched in three places, along the longer side, by means of three copper nails fixed with small copper plates, exactly like block-print α . The printing is not very well done, the cause apparently being the rather indifferent quality of the ink.

Each page bears one impression of the block. With the exception of a few pages the edging lines of the block-type are not shown. There is a blank margin round the type, on all four sides of a page, about an inch, or an inch and a quarter, wide.

The impressions in this book were taken from a different block, which is shown in Plate I, figure 2. It differs from the block used in the books previously described, by having a third column of text inserted in the vertical blank space, and an additional line of text inserted in the horizontal blank space between lines 7 and 8. The text also agrees with that of book β , in exhibiting the same *varia lectio* in column I, line 7, letter 1, see pages 126 and 130.

(5) Block-print ϵ . Again one of the thirteen books, received from Mr. Macartney, in October last. Its pages measure $4\frac{1}{2} \times 9\frac{1}{2}$ inches; and it consists of 33 forms, of one folded sheet each. In point of cover, stitching and printing it is exactly like block-print δ .

The block used in printing this book was the same as that for printing book δ . The text, accordingly, also possesses the additional column and line.

Each page bears one full impression of the block and the minor portion (lines 8 to 12) of another, inclusive of the additional line. In this case the two impressions are not placed, as in book γ , with their foot-lines adjoining, but in regular order. The full impression stands at the bottom of the page; and above it, is placed the mutilated impression, with its additional line, so that the whole page commences with the latter line.

All the five books, above described, are printed on paper of a coarse quality and a dirty, darkish buff colour. Dr. D. Prain, the Superintendent of the Royal Botanic Gardens in Sibpur, who has kindly examined it for me, says that it is of the same kind as the ordinary Nepalese paper, made of the fibres of the *Daphne* plant. The colour of this paper is yellow, but darkens with age.

The edges of the books are not cut, but frayed.

There is nothing to distinguish the beginning and end of a book; and the pages are not numbered. Nor am I certain what is the top and what the bottom of a page. The figures on Plate I show what I take to be the top and the bottom. I have been guided in this arrangement by the curious resemblance of some of the letters to Kharoṣṭhi.

There are evidently two versions of the text, a simpler and a fuller. The former is shown in figure 1; the latter in figure 2. In the fuller text the vertical blank space between the two columns of the simpler text is filled up with additional writing, making up, in fact, a third column, and the horizontal blank space is also filled up with an additional line.

The insertion of the additional column would seem to indicate that each column of the simpler text must be read by itself, the third column forming an additional text. The horizontal blank space, dividing the column into halves of seven and five lines respectively, would seem to show that each column consists of two formulae. The simpler and fuller texts would thus contain four and six formulae respectively. Of course, they might be connected with one another.

The text, to judge from its repetitions, would seem to be some formula, perhaps a charm or an invocation or a so-called "creed." The repetitions seems to suggest a system of praying like that of the Tibetans with their prayer-wheels or flags. The Khotan devotee may similarly have sent up a long string of prayers by simply turning the leaves of his book as rapidly as possible.

I have already remarked on the resemblance of some of the signs to letters of the Kharoṣṭhi alphabet. Accordingly I suspect that the lines are to be read from the right to the left, and that the letters belong to the Semitic class of alphabets. It will be noticed that the letters are written in different sizes, apparently only for the purpose of utilising the available space to the fullest extent. Here and there the forms of the letters in the two texts do not fully coincide. This seems to be due to imperfect inking of the block, or to inequalities in the execution of the block. What the correct form of the letter may be must remain, for the present, uncertain.

In the following references the letters of the three columns are counted separately, and, in each column, from the right to left.

Col. II, line 10, letter 4 (the last) resembles the Kharoṣṭhi letter *khu*. The same letter (*kha*) occurs in col. II, line 3, letter 2.

Col. I, line 2, letter 5, resembles the Kharoṣṭhi *ḍa*. It is also written diminutively. It also occurs in col. II, line 4, letter 3; col. II, line 12, letter 3; and col. I, line 8, letter 5 (*ḍu*).

Col. I, line 4, letter 1 resembles the Kharoṣṭhi *ya*. It also occurs in col. I, line 3, letter 1 (*yā*); col. III, line 8, letter 1; col. II, line 3, letter 4.

Col. I, line 4, letter 3 resembles the Kharoṣṭhi *mō*; the bottom of the letter is open owing to imperfect inking of the type. The same letter occurs in col. II, line 12, letter 4 (*ma*), and in col. III, line 5, letter 3 (*maṁ*).

Col. II, line 4, letter 1 resembles the Kharoṣṭhi *na*. It also occurs in col. III, line 6, letter 2, and col. I, add. line, letter 3.

Col. II, line 9, letter 1 resembles Kharoṣṭhi *tra*. It also occurs in col. III, line 6, letter 3.

Col. II, line 9, letter 4 resembles the Kharoṣṭhi *ba*; and in diminutive form, it occurs in col. III, line 11, letter 4.

Col. I, add. line, letter 4 resembles the Kharoṣṭhi *va*; so also col. I, line 10, letter 4; also col. I, line 5, letter 4 (*vu*), and col. II, line 7, letter 2 (*vu*); col. I, line 11, letter 4 (*vu*); also col. II, line 9, letter 3 (*və*).

Col. III, line 11, letter 1 resembles Kharoṣṭhi *ra* or *ta*. It occurs also in col. II, line 8, letter 2, and, in diminutive size, in col. II, line 3, letter 3.

Col. I, line 1, letter 3 resembles the Kharoṣṭhi *pa*; and in col. I, line 4, letter 4 there is *pu*.

Col. I, add. line, letter 6 resembles the Kharoṣṭhi *sa* (or *sā*).

Col. II, line 8, letter 5 resembles the Kharoṣṭhi *dha*. With the preceding letter, the word might be *budhu* (*buddha*).

Col. III, line 1, letter 3 resembles the Kharoṣṭhi *aṁ*.

A letter which occurs several times is in col. II, line 2, letter 3; col. II, line 4, letter 4; col. II, line 5, letter 1; col. I, add. line, letter 5; col. I, line 2, letter 3.

Col. I, line 6, letter 4 has some resemblance to the Greek capital A, and col. I, line 6, letter 3, col. II, line 7, letter 3, col. III, line 12, letter 1 to the Greek capital U (V); and col. III, line 7, letter 4 is exactly like the obsolete Greek *p* of the Kanerki coins. It also occurs in col. I, line 7, letter 1, where, however, the loop is omitted in the simpler text. There are also some other signs which remind one of Greek letters, thus *omega* in col. II, line 11, letter 4; *omikron* in col. II, line 2, letter 2, and elsewhere; *sigma* in col. I, line 4, letter 2; col. I, line 12, letter 2; col. I, line 11, letter 2 (or 3). Another sign, like *sigma* reversed, occurs in col. I, line 8, letter 4; and with a side-stroke, in col. I, line 2, letter 7; col. III, line 2, letter 1; col. II, line 4, letter 2. *Iota* occurs in col. I, line 2, letter 2, and col. I, line 12, letter 1.

With reference to the facsimile legends shown on Plate II, I should explain, that they are shown on a uniform plan: their heads point to line 7, and their foot to line 8, as shown in figure 3 of Plate I. It will be noticed, however, that the same symbol often occurs in reversed positions, which seems to suggest that occasionally the legend is turned on its head.

In each numbered group, there are shown two legends, marked *a* and *b*. These occur on the same page of the book; thus *a* and *b* of No. 1 occur on page 4. Each page, as already explained, bears two imprints of the block (fig. 1, Plate I). Each imprint, of course has the horizontal blank space; and in these two blank spaces the two legends *a* and *b* are placed.

It will be noticed that the same letter or group of letters is often repeated. I cannot yet identify them; but some of them suggest Greek

Georgian, or Cyrillic forms. I quote below a few of the most striking examples.

Single letters.

- (1) Ξ Nos. 18a, b, 20b, 37b (Cyrillic e).
- (2) Ξ Nos. 8a, 9b, 11b, 13b, 19ab, 20a, 25b, 31b, 38b, 39b, 40b;
(Cyrillic s).
- (3) ζ Nos. 2a, 12a (Greek or Cyrillic s).
- (4) \rangle Nos. 14a, 36a, 41a.
- (5) γ Nos. 11a, 12b, 15a (Georgian q or Russian tsch).
- (6) \uparrow Nos. 6a, 10a, 27b, 34a.
- (7) \downarrow Nos. 1b, 5a, 13a, 26a, 28b, 33a, 37a.
- (8) δ No. 6a (Georgian n).
- (9) θ Nos. 11b, 15a.
- (10) ϱ No. 14a.
- (11) ϑ No. 30b (Georgian m).
- (12) ϑ No. 13a.
- (13) \mathcal{R} No. 18b (Greek r).
- (14) Φ Nos. 18b, 22b, 29b, 34a, 38b (Georgian, Cyrillic f).
- (15) Φ Nos. 27a, 32a (Georgian p).

Groups of letters.

- (16) $\downarrow\Xi$ Nos. 2b, 8b, 36a (cf. Nos. 2 + 7).
- (17) $\uparrow\Xi$ Nos. 5b, 25a, 26b, 31a, 35a (cf. Nos. 1 + 6).
- (18) $\Xi\uparrow$ No. 22b (reverse of No. 17).
- (19) $\Xi\downarrow$ Nos. 3b, 4b, 6b, 9a, 15b, 16ab, 19a, 22a, 29b, 32ab, 33b, 34b,
35b, 38b, 40b (reverse of No. 16).
- (20) $\rangle\downarrow$ No. 29b (cf. Nos. 4 + 7)
- (21) $\Xi\theta$ No. 4a.
- (22) $\Xi\downarrow$ No. 6b.
- (23) $\Xi\uparrow\zeta$ No. 28a (cf. Nos. 6 + 3, and 22)
- (24) $\Xi\uparrow\zeta$ No. 29a (cf. Nos. 12 + 6 + 3).

I may add that two block-print books of the same kind as those described in this note have been taken to Paris by M. Dauvergne for presentation to the French Archæological Society. They were given to him by Captain Godfrey with the permission of the Government of India.

2. *Materials for a Flora of the Malayan Peninsula, No. 10.*—By SIR GEORGE KING, K.C.I.E., M.B., LL.D., F.R.S., *Lately Superintendent of the Royal Botanic Garden, Oalcutta.*

The paper will be published in the *Journal*, Part II.

3. *On the Lizard in Indian Superstition and Folk-Medicine.*—By ÇARAT CANDRA MITRA, M.A., B.L., *Corresponding Member of the Anthropological Society of Bombay.* Communicated by the Anthropological Secretary.

The paper will be published in the *Journal*, Part III.

4. *Note on Dr. Hoernle's paper on New and Rare Hindū and Muḥammadan Coins, No. IV.*—By O. CODRINGTON, M.D., F.S.A. Communicated by the Philological Secretary.

No. 15, plate VI, 1897, is a well-known Hindu coin. Marsden figured it No. LXVIII in *Numismata Orientalia* and correctly read the legend.

The coins are known in Western Indian bazars as Chatrapati or Satara pice, are found commonly in almost any collection of copper coins met with in the Konkan or Western Dekkan, and are said, I think quite rightly, to be the coins of the Satara State founded by Çivāji. Two varieties are recognized and called the old and new paisa. The one figured by Marsden is one of the former sort, the lettering on the latter sort is bolder and the coins are larger. The legend which as usual is seldom or never complete on any one specimen is—

Obv.	ओ	Rev.	छत्र
	राजा		पति
	शिव		

It does not vary on any of the older sort, but on some of the newer the last line of the *Obv.* is a little different. I have some on which it is ओव and one which reads राज. The older are, I think, coins of Çambhāji Chatrapati (A.D. 1681–88) son of Çivāji, if not of that great man himself, the newer may be attributed to Çivāji Çahū, the third ruler (A. D. 1708–49) and his successors, the coin having the last line राज being possibly one of Rām Rāja the fourth king (1750–77).

A large number of the official Seals of the Satara kings and their ministers were deposited in the Museum of the Bombay Asiatic Society in 1875 by order of Government, of which I gave a full description in Vol. XVI, of that Society's *Journal* after having made a good deal of search and enquiry at the Alienation Daftar at Poona where a large collection of documents connected with the Satara State is stored. On these seals the name of Çivāji is always शिव not शिवाजी; the title Chatrapati is on many of them, and the dynasty is commonly spoken of as the Chatrapati Rajas.

H. H. Wilson, Grant Duff and the *Bombay Gazetteer* all state that Çivāji struck silver coins, Wilson adding that in all probability the *larin* was the form adopted by him, for that was the chief silver currency

in the Konkan and Western Dekkan in his time. I have been on the look out for years for any silver piece which might be attributed to Çivāji without any success. All *larins* I have seen bear some Persian legend, Çivāji would not have tolerated that I think.

No. 13 in the same plate is a coin of the Porbandar State, known in the bazars as *rana shai*. In my paper on the Coinages of Cutch and Kathiawar, published in the Numismatic Chronicle for 1895, Vol. XV, I described the coins of the Muzaffar Shāh of Gujarat pattern issued in those States of which this is one.

5. *New species of Entada from Singapore and Borneo.*—By H. N. RIDLEY, M.A., F.Z.S., *Director of the Botanic Gardens, Singapore.* Communicated by SURGEON-MAJOR D. PRAIN.

The paper will be published in the *Journal*, Part II.

6. *Patiyālah coins, origin of the legend thereon.*—By W. IRVINE, .C.S., (retired.)

On referring to Mr. C. J. Rodgers' "Catalogue of the Coins in the Indian Museum," Part II (1894), pp. 200, 201, it will be seen that the coins of the Patiyālah State bear the following curious inscription :

حکم شد از قادر بیچون باحمد بادشاه
مکه زد برسیم وزیر ازواج ماهی تابله

It is the same as that borne by the coins of Aḥmad Shāh Durrāni, see the same work, Part IV (1896), p. 165. I do not know that anyone has ever called attention to the curious fact that a Sikh should adopt and retain a motto from the coins of one of the hated Mahomedans. The point is not referred to either in J. D. Cunningham's "History of the Sikhs" or in Sir Lepel Griffin's "Panjab Rajas." The following account is to be found on folio 54 a, b, of the work *Ḥusain Shāhi* (British Museum, Ms. Oriental, No. 1662), composed in the year 1213 H. (1798) by Mu'īnu-d-dīn, Cishtī. The occasion referred to must have been after 1176 H. (1761-2) and before 1770, the year of Najib Khān's death; Cunningham and Griffin attribute this last invasion to the year 1767. If this chronicle is to be relied on, then Mr. Rodgers will have to assign the coin No. 11,119 (p. 200) to Amr Singh instead of to Alah Singh, his grandfather. According to Mu'īnu-d-dīn Lāhori's *Tarikh-i-Panjāb*, Rājah Amr Singh succeeded his grandfather in 1764 and died in 1780.

These men were not particularly well pleased at the Durrāni King's reappearance to disturb them in their ease. Most of them sent presents and humble petitions full of frivolous excuses for non-attendance. Najibu-d-daulah was the only one that put in an appearance, and he reported that in Hindūstān all was peace and His Majesty might return

to Qandahār and there take his rest and repose. Meanwhile the government of Sihrind was made over to Najibu-d-daulah and he took possession of its castle.

Now Amr Singh was the grandson of Alah Singh Jāt, the first of the Sikhs who rose to power. One day Najibu-d-daulah said to Amr Singh, "Rājah! This foot of yours, Paṭiyālah, is nothing, I will show you a much better one, Shērgarh, which I have made at Najibābād, it is very strong." Amr Singh inferred that it was intended to send him as a prisoner to Najibābād; his heart sunk, and the colour left his face. But Fato, widow of Alah Singh and grandmother of Amr Singh, was a clever woman. She went secretly and fell at the feet of Shāh Wali Khān (Ahmad Shāh's chief minister), placed her shawl on his feet, and bare-headed petitioned that for God's sake he would rescue her grandson from the claws of Najibu-d-daulah, promising to present a fitting tribute (*nazarānah*). Shāh Wali Khān was a man of probity and of very kindly disposition, and during the night at a private interview made some statement to the king.

In the morning the king sent for Amr Singh from the encampment of Najibu-d-daulah, gave him a robe of honour, and conferred on him the title of *Rāja-i-Rājagān*, which is held by his descendants to this day. And the coinage of Ahmad Shāh, shelter of the faith (*Dīnpanāh*), is current in Paṭiyālah; and whoever sits in the throne of that territory issues his coin in the name of that exalted king (i. e., Ahmad Shāh), and announces himself as a servant of that exalted house. Amr Singh caused the words *Rāja-i-Mānizāi* to be engraved on his signet ring, Ahmad Shāh being a Mānizāi. In return for the kindness of Shāh Wali Khān, Amr Singh counted himself a servant of Ahmad Shāh.

7. *On a third invasion of India by Baer's Pochard (Nyroca baeri).—* By F. FINN, B.A., F.Z.S., *Deputy Superintendent of the Indian Museum* (with exhibition of specimens.)

[Received and Read April 6th, 1898.]

In the Society's *Proceedings* for 1896 (p. 61), and in the *Journal* for 1897 (Pt. II, p. 525), I have already recorded two incursions into India on the part of the East-Asiatic duck mentioned in the title of this paper.

I have now to communicate the fact that *Nyroca baeri* has again visited India, during the past cold season, in numbers, which, if they do not compare with those recorded on the last occasion (see *Journal*, *loc. cit.*), at any rate show that the bird was not at all uncommon. The two specimens exhibited to-night form part of a series of seven secured

for the Museum collection, while twelve living birds were purchased for the Alipore Zoological Gardens, whence some have been despatched to the London Zoological Society; and in addition to these I saw others which I did not buy. In fact, taking into consideration the rather poor supply of water-fowl in the Calcutta Provision Bazaar this winter, *Nyroca baeri* might have been fairly called a common duck there.

I saw the first specimen in the Bazaar on November 8th, 1897, and the last on March 23rd of the present year, so that the species has been present for some time; longer, apparently, than before, the latest date on which I have previously recorded it being February 27th. Among the specimens I observed there were very few males, and none of these were in full-plumage, all being immature. Of the nineteen specimens above recorded as obtained for the Museum and Zoological Gardens, only six were drakes, and I do not remember seeing any others among those which I did not buy. Among the females also, few or none were in full-plumage, (though I only saw a very few in the complete brown plumage of immaturity) so that these also were apparently nearly all young birds.

In one of the females procured for the Alipore Zoological Gardens, however, I observed that the iris was almost as white as a male's, so that this at any rate was probably an old bird, if the colour of the eye in the female of this species becomes lighter with age. Certainly brown is the usual colour of the iris in those females of this species I have seen so far, though I have noted exceptions.

It is curious that even yet no sportsman appears to have met with this species;* probably the fact that most of the birds do not strikingly show the characteristics of the species accounts for this; though I find that the market dealers can distinguish them from the common white-eye (*Nyroca africana*). The full-plumaged male is, of course, quite unmistakable, but appears to be rare here. One female I saw, but did not buy, had a large white patch at the base of the throat in front, in addition to the usual spot at the base of the beak beneath.

With regard to the habits of the species, I may add to what I have previously recorded that the note of the female is a harsh "karr," and that she sometimes jerks back her neck much like the male.

8. *An Unrecorded Governor of Fort William in Bengal.*—By C. R. WILSON, M.A.

* With the exception of the Messrs. Dods, who, from the account given me, appear to have done so; but by an unfortunate mischance the specimens were not preserved.

9. *A new Inscription of Mahārāja Bhōja I., from Murwar, dated Harsa Samvat 100.*—By DR. T. BLOCH.

The papers will be published in the *Journal*, Part I.

10. *Materials for a Carcinological Fauna of India.—No. III. The Brachyura Cancroidea.*—By A. ALOOCK, M.B., C.M.Z.S.

The paper will be published in the *Journal*, Part II.

11. *Numismatic Notes and Novelties, No. III.*—By V. A. SMITH, I.C.S.

The paper will be published in the *Journal*, Part I.

12. *Scraps of Hindu Folk-lore.*—By PANDIT RAMGHARIB CHOURB, Late Pandit to W. CROOK, Esq., I.C.S., (Retired) Editor of the "*North Indian Notes and Queries*." Communicated by the Anthropological Secretary.

The paper will be published in the *Journal*, Part III.

LIBRARY.

The following additions have been made to the Library since the meeting held in March last.

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PROCEEDINGS
OF THE
ASIATIC SOCIETY OF BENGAL,
FOR MAY, 1898.

The Monthly General Meeting of the Asiatic Society of Bengal was held on Wednesday, the 4th May, 1898, at 9-15 P.M.

THE HON. MR. H. H. RISLEY, C.I.E., President, in the Chair.

The following members were present :—

Dr. A. Alcock, Babu Aghore Chunder Bhaduri, Dr. T. Bloch, W. B. Colville, Esq., J. N. Das-Gupta, Esq., W. K. Dods, Esq., F. Finn, Esq., Captain P. R. T. Gurdon, Dr. A. F. R. Hoernle, D. Hooper, Esq., W. A. Lee, Esq., Babu Pauchanana Mukhopadhyāya, J. D. Nimmo, Esq., A. T. Pringle, Esq., Babu Jadu Nath Sen, M. J. Seth, Esq., Mahāmahōpādhyaya Haraprasād Shastri, The Revd. J. Watt, C. R. Wilson, Esq.

Visitors :—W. F. Reynolds, Esq., Jas. Wyness, Esq.

The minutes of the last meeting were read and confirmed.

Sixteen presentations were announced, details of which are given in the Library List appended.

The following gentlemen duly proposed and seconded at the last meeting of the society were ballotted for and elected ordinary members :—

R. N. Mookerjee, Esq.

J. Bathgate, Esq.

The following gentlemen are candidates for election at the next meeting :—

Babu Bepin Behari Gupta, M.A., Professor of Mathematics, Presidency College, Calcutta, proposed by Babu Jadu Nath Sen, seconded by C. Little, Esq.

M. le Docteur Palmyr Cordier, Médecin des Colonies, Lauréat de l'Académie de Médecine, Chandernagor, proposed by Dr. A. F. R. Hoernle, seconded by Surgeon-Major A. Alcock.

Surgeon-Major H. J. Dyson, I.M.S., proposed by the Hon. Mr. H. H. Risley, seconded by Surgeon-Lieut.-Col. J. Scully.

Donald Sunder, Esq., Provincial Civil Service, proposed by the Hon. Mr. H. H. Risley, seconded by Surgeon-Major A. Alcock.

The Secretary reported the death of the following members:—

Pandit Harimohan Vidyabhushan (Ordinary Member).

Sir Syed Ahmad, Bahadur, K.C.S.I. do.

Dr. G. Bühler (Honorary Member).

The President announced that the Council had sanctioned for *Journal*, Part I, a special grant of Rs. 1,600 for printing text and plates of Dr. Hoernle's paper on Assam Copper-plate Inscriptions, out of the accumulations of Assam Government Grants for Ethnological Research.

The President presented to Babu Sarasi Lal Sarkar the Elliott Gold Medal for his Essay on an Investigation of the Properties of Numbers: and on some Propositions relating to the Theories of Congruences and of Quadratic Residues.

The following papers were read:—

1. *An Epigraphical Note on Palm-leaf, Paper and Birch-bark.*—By A. F. RUDOLF HOERNLE, C.I.E., PH.D.

The paper will be published in the *Journal*, Part I.

2. *On some imperfectly known points in the Habits and Economy of Birds, No. II. On the Use of the Feet for Prehension by certain Passerine Birds, especially Babblers.*—By F. FINN, B.A., F.Z.S., Deputy Superintendent of the Indian Museum.

Considering the perfect organization of the feet of Passerine birds for grasping, it is somewhat astonishing that so many of them appear to have no notion of using these members for holding their food, or for transporting any object after the manner of Birds of Prey.

It would appear, however, that our common Crow (*Corvus splendens*) does occasionally do the latter, for I have on two or three occasions seen one flying with a stick or other nesting material in its foot, thus imitating a Kite.

Curiously enough, Kites themselves frequently carry nesting material in their beaks, though food is carried by them in the feet.

Among Passerine birds other than Crows, I have seen a Brown Shrike (*Lanius cristatus*) in the Museum compound, carry off in its foot a dragon-fly on which it was preying when disturbed; and a King-crow (*Dicrurus ater*) in a large compartment in one of the aviaries of the Alipore Zoological Gardens similarly transported a butterfly I had given it, when persecuted by other birds which wanted the insect. I have also noticed that Bhimrajs (*Dissemurus paradiseus*) which I have kept, when disturbed with food in their foot, will still thus retain it when shifting their position.

This habit of grasping the food in one foot is just as characteristic of the Drongos as of the true Shrikes, judging from what I have seen of *Dissemurus paradiseus* and *Dicrurus ater*; I have even seen the latter bird apparently trying to eat something from its feet in the air. *Ohibia hottentotta* appears also to grasp its food with its foot when feeding, at times. I have distinctly seen recently a Piping-crow (*Gymnorhina*) both grasp its food with its foot like a Shrike and put it under one foot like a Crow, in quick succession.

The habit of using the foot as a hand (with the leg resting on the ground or perch) would thus seem to be common to various Shrike-like birds; but it is rather surprising to find it markedly characteristic of many of the Babblers, as I have done after studying many species in captivity.*

In the case of *Crateropus canorus*, *Argya earlii*, *Garrulax leucolophus* and *albigularis*, *Pyctorhis sinensis*, *Lioptila capistrata*, *Siva cyanuroptera*, *Liothrix luteus*, *Meria argentauris*, and *Ægithina tiphia*, this action was to be remarked, though some of these birds, at all events, frequently employ the corvine method of putting the food under the foot simply, and this was specially the case with *Pyctorhis*. *Trochalopteryx lineatum* and a species of *Zosterops* I kept very seldom used their feet in feeding and *Ianthocincla rufigularis* and *Pomatorhinus erythrogenys* apparently not at all, though I thought I saw a sign of this in the last species.

None of the various species of Bulbuls, however, which I have kept from time to time, have ever shown any disposition to use their feet in feeding, and in this respect *Chloropsis* also agrees with them rather than with its obviously nearer relative *Ægithina*.

Myiophonus temminckii, the only member of the *Brachypterygines*

* Blyth, however, as quoted by Jerdon (*Birds of India*, vol. IV., pt. I., pp. 16 and 36,) has recorded the use of the foot in feeding by *Pyctorhis sinensis* and *Dryonastes sinensis*. I have alluded to the habit in some of these birds in my papers on the *Theory of Warning Coloration and Mimicry*, J. A. S. B., 1895 and 1897.

which I have been able to examine in this regard, does not seem inclined to use its foot; as indeed one would not expect it to do, seeing its manifestly close relationship to the typical Thrushes, *Merula* and *Turdus*, which in its gait and appearance it so much resembles. For the Babblers, when on the ground, generally move with a quite different action from the true Thrushes, standing less erect and progressing by more or less bounding hops only, without running as a rule. But *Argya earlii* appears to be more Thrush-like in its gait than other Babblers, though typical enough in most respects. The New Zealand Thrush (*Turnagra*) though somewhat resembling a Babbler in gait and tail action, does not, according to the testimony of the keeper of the Western Aviary at the London Zoological Gardens, who watched it for me, use its foot in feeding.

These differences between Babblers and Thrushes may seem very trivial matters to insist upon, but it must be remembered that the former group is generally admitted to be a very difficult one to define, and this habit of using the foot in feeding, like a Crow or a Shrike, will certainly differentiate most Babblers, large or small, from either Thrushes or Warblers, none of which, so far as I have seen, ever act in this way; and I have had opportunities of observing, besides other Thrushes and Warblers, *Copsychus saularis*, *Cittocincla macrura*, and *Orthotomus sutorius*, under conditions which should have made them show this action, if it were habitual.

This distinction in habit is paralleled by the fact that the Troupials, as I have observed in the case of *Icterus vulgaris*, though simulating the Starlings in form and the Orioles in colour, differ from both these groups in readily making use of their feet when feeding, generally in corvine fashion.

Of course, habits of this kind may vary in allied groups even; I do not remember seeing Sparrows (*Passer domesticus* and *montanus*) ever use their foot to retain any object, as some Finches, e.g., the Canary will do. And among Cuckoos, while the Crow-Pheasant (*Centropus sinensis*) uses its foot like a true Crow, the Guira (*Guira guira*) does not appear to do so, though a bird of similar habit in some respects. Nor do all Parrots even, characteristic as the gesture is, use their feet as hands; the Budgerigar (*Melopsittacus undulatus*), does not do so, as far as I know. I would not, therefore, press this character too hard. But a habit certainly does seem very persistent in many cases, and the present one should, I think, be allowed a certain amount of weight, in conjunction with other characters.

Curiously enough, the typical Babblers are strikingly marked off from allied groups by other peculiarities only observable in the living

bird. Thus, they are usually, from *Garrulax* to *Zosterops*, remarkably and demonstratively sociable, exhibiting an intense love of company, and being given to cuddling up to and caressing other birds, including those of another species, or even group, if the latter permit. *Ohloropsis*, however, and apparently *Ægithina*, is not thus disposed.

This social disposition, which, by the way, is less noticeable among Bulbuls, is obviously different from that of Thrushes and Warblers, and though a mental or moral character, should be allowed its due weight in considering the relationships of such difficult and closely-related groups as the Thrush-like *Passeres*.*

3. *A further note on Tulasī-dāsa and the Plague in Benares.*—By G. A. GRIERSON, C.I.E., PH.D., I.C.S.

In my Notes on Tulasī-dāsa published on p. 253 of the *Indian Antiquary* for October, 1893. I referred to the *Hanumān-bāhuka* as an appendix to the *Kavitta-rāmāyaṇa* written when the poet was suffering from a severe sore in the arm.

A note by me on the date of the composition of the *Kavitta-rāmāyaṇa* appeared in the *Proceedings* of the Society for last March. In it I mentioned the references made in that poem to the Plague which devastated Benares in the first half of the 17th century. A copy of this note was sent by me to Mahāmahōpādhyaya Paṇḍit Sudhākara-dvivedī of Benares, and he now points out to me that it is most probable that the poet himself died of the disease, and that the *Hanumān-bāhuka* was composed by him while suffering from it. The following remarks are based on his communication.

Tulasī-dāsa died in Sambat 1680, equivalent to 1623 A.D. The plague appeared in India in 1616 A.D., and lasted for eight years. It is therefore not impossible that the poet should have fallen a victim to the pestilence.

One of the most characteristic symptoms of the disease is the extremely painful boils or bubos, which commonly first appear in the groins or armpits. In the 25th verse of the *Hanumān-bāhuka*, the poet says in so many words that his sore is in his armpit, *bāhu-taru-mūla*, the root of the tree of his arm. In the 37th verse he tells how the pain cannot be borne by night or by day, and that it is in the arm which Hanumat had once grasped as a friend, i.e., in his right arm. In the last line of verse 35 he thanks Hanumat for having relieved his pain, in accordance with the prayers which he commenced in verse 30.

* I may also mention, in this connection, that I found that being confined and watched in a cage, *Ægithina tiphia* and *Argya earlii* did not produce "castings" from insects given, while *Cittocincla macrura* did so.

In that verse he cries, 'Is it from my own sin, or from fate, or from some curse? I cannot tell, I cannot bear, the pangs I suffer in my arm. Drugs, charms, spells, simples, all are unavailing. I pray to God, and he only adds fuel to the fire. Who, in this universe, whether he be Creator, Preserver, Destroyer, Fate or Time, heedeth not thy commands, O Hanumat? Tulasī is thy slave. Claim him as thine. Thy delay addeth pangs upon his pangs.'

In the 36th and the following verses, the language of the poet becomes confused. His relief had been but temporary. He no longer calls only upon Hanumat. He commences a verse by addressing that deity, and finishes it with a prayer to Rāma-candra. This confusion continues to the last or 44th verse. His disease increases in severity, and in the 41st verse, he tells us that his body is now covered all over with ghastly sores. This is borne out by a tradition that when the poet was at the point of death he became a leper. The sores of the plague are evidently referred to. Mahāmahōpādhyāya Sudhākara-dvivēdi adds that in his boyhood he used to hear from his father and from Vandana-Pāṭhaka, the great authority on Tulasī-dāsa, that the poet had composed the *Hanumān-bāhuka* in four days, and from the data now before us it seems to be extremely probable that the verses were uttered by him on his deathbed, during the four days he was suffering from plague.

The only other possible explanation of the poem is the traditional one, that he was suffering from a carbuncle; but from all we know of the high character of this great man, it seems improbable that he should have used such vivid language regarding what, after all, was not an uncommon complaint, and which was a curable one. Moreover, if the poet had recovered from such a carbuncle, surely the poem would have concluded with some words of thankfulness to the deity whom he had been addressing in such impassioned language. Other works of Tulasī-dāsa show that he was the reverse of an ungrateful man, and I am only able to account for the omission of thanks by supposing that he never did recover from the disease which he laments, that he really was suffering from the plague which Jahāngir described, and that the *Hanumān-bāhuka* was his swan-song, recorded by his friends as he lay at the point of death.

It is historically true that the poet died in Benares, and that the plague was rife in that city at the time of his death. It also appears that the symptoms of the disease from which he died, so far as the poet has described them, agree with the symptoms exhibited by patients suffering from that terrible pestilence.

4. *Mint Rules in 1126 A.H. (1714-15 A.D.)*—By W. IRVINE, B.C.S. (retired).

The following extract from a small work (19 folios of 16 lines each) that I have lately acquired, the *Hidāyat-u-l-qawā'id*, by Hidāyat-ullāh Bihārī, may be of interest to those numismatists, such as Dr. Edgar Thurston, who have taken up the history of Indian mints. The work was written in 1126 H. (16th January, 1714—5th January, 1715), falling in the second and third years of Farrukhsiyar's reign. The following verses fix the year:—

هدایة القواعد کردم بیان مفصل	اطلاع مردم باشد از آن مکمل
در الف و مثله و عشرین و سته هجری	مرقوم شد قواعد دستور از انامل
قدرت بر این نهادم گویم چنانچه باید	گفتم بر آنچه دانم باشد نه این معطل
بر عالمان کامل و از عارفان این فن	امید صحر گردد تا از سهر مبدل

As we are able to fix thus precisely the date of composition, the remarks are of historical value, and although they are far inferior in detailed information to Book I of the *Āin-i-Akbarī*, *āin* 4 to 12, they give some things that cannot be found there. I insert the text, as many of the expressions have baffled me.

خدمت داروغگی دار الضرب روپیہ و اشرفی

داروغہ دار الضرب را باید کہ از مشرف و چودھری دستور و ضابطہ ہر یک بمہر مشرف و بدستخط چودھری مذکور نویسانیدہ بگیرد کہ سکہ و اشرفی و روپیہ وغیرہ بچہ عنوان وزن میشود و اجورہ داران و گداز گران طلا و نقرہ و گدازی حق النار و خرچ نمک و ابلی و مکش نیارہ و حاصل مسلمین و ہنود چگونہ بعمل می آید و از کدام جاہا بصیفہ ابواب الجمع گرفتہ داخل سرکار باید کرد و کدامی را مواجب از سرکار بکدام جا باید داد لازم کہ از دستور ہر یک مکان مطلع گردیدہ مطابق ضابطہ و معمول و مطابق حکم حضور پرنور ہرچہ مجدداً رسید انجام دہد و افزون سکہ تاریخ دارد و محصول خرچ دار الضرب بمکان صوبہ ادا ہازد ہرگاہ بیوپاریان طلا و نقرہ بوائی مسکوک می آرند و بمواجه ارباب دخل وزن نمودہ حوالہ گداز گران مینمایند و گداز گران گداز کردہ باریاب دخل مینمایند و بلاحظہ می درآرند اگر طلا و نقرہ بکداز و تاب کم عیار میشود باز بگدازی دہند - چون قابل سکہ پسندیدہ میشود * گداز گران باز گداز کردہ مطلق کہ بزبان ہندی مالا میگویند میسازند درست داشتہ باشد و بمواجه خود قرشی ہای سکہ را علیحدہ علیحدہ تیار داشتہ بسکہ زنان بدهد کہ اشرفی بوزن نہ ماشہ شش سرخ و روپیہ بوزن دہ ماشہ دو سرخ و نیم آن و نیمہ نیم آن تا نیم رُبی بروزن

آن تیار نمایند و محصول باین حساب و شرح بگیرد که از مسلمین فی مهر پنج آنه و پنج گندّه و در روپیه فی صد دو نیم روپیه و از هندو دو طریق یکی مهاجنان که مقرری باشند از آنها فی مهر پنج آنه و در روپیه فی صد دو روپیه و دو آنه و از صرافان و غیره که صوابی مقرری می آیند از آنها فی مهر هفت آنه و در روپیه فی صد سه روپیه و بصیغه ابواب الجمع که در سرکار ضبط میگردد از گداز گران بابت نیاره ها که گداز گران ربڑکی از خاکستر انگشت می برانند و آنرا کسب میگویند فی هزار سکه دوازده آنه و از چاندی گران در ماه دو روپیه و از گداز گران در ماه یکروپیه بصیغه پیشکش در خزانه سرکار والا بصوبه دیوان جمع نموده باشد و گداز گران و دارابان از مهاجنان و غیره فی صد سکه شش آنه بصیغه حق النار فی هزار هفت آنه برای خرج نمک و ابلی علحدّه میگیرند و خرج از سرکار آنکه فی صد سکه اجوره دربان دو نیم آنه و مرمت گهن و موصله فی هزار نیم آنه و انگشت فی هزار هشت آنه و مواجب پیشکار و داروغه و تحویلدار و گداز گران و سکه زنان و صاحب عیار و پیاده ها متعینه دار الضرب منجمده محصول می یافتنده و ضوابط هر يك مكان اگر يك عنوان باشد مطابق آن سرانجام دهد و الا مطابق ضوابط هر يك مكان و سکه زن را فرماید که نام بادشاه و سنه جلوس و اسم مكان دار الضرب در سکه منقوش و روشن باشد و کنار فرشی سکه بسبب کم گدازي و کم عیاری ترقیده نشود *

OFFICE OF THE SUPERINTENDENT OF THE MINT FOR GOLD COINS AND
RUPEES.

The Superintendent (*dārōgha*) of the Mint should obtain from the *mushrif* (manager) and the *caudhrī* (head workman) the rules and regulations in writing, causing the first to affix thereto his seal and the second, his signature. This statement should show the manner in which the dies (*sikkah*), and gold coins (*ashrafi*), and silver coins (*rūpaiyah*) etc., are weighed; what wages are paid to the labourers and the melters of the gold and silver; the payment for the cost of the fire used in melting (*haqqu-n-nār*); and the expenses for salt and for *able* (?); the *maukash* (query read, *pēshkash*, the present or offering) of the scoria-sifters (*niyārah*);* and what is collected from Mahomedans and from Hindus. Also whence the items are obtained that come under the heading "To be credited to Government." Also the persons to whom pay from the Government should be given and to what amount. He (the superintendent) should become acquainted with the rules of each place (i.e. each Mint), and should carry out everything according

* From either Hindi, *niyārā*, separate, or A. P. *niyār*, plural of *nār*, fire.

to rule and custom, and in obedience to such new instructions as may be issued by the Emperor.

He should keep a daily account of the stock of coins. [*Afzūn* is the total of an account, and here I take it as meant for a statement of receipts and issues, showing (1) balance of previous day, (2) receipts, (3) issues, (4) *Afzūn* or balance at end of the day]. He should pay the dues and expenses of the Mint at the office of the provincial governor. When traders bring gold or silver to be coined, it should be weighed in the presence of the receiving officials and then be made over to the melters. The melters having melted down the metal return it to the receiving official. He (the superintendent) should inspect it. If the gold on the touch stone (*miḥakk*) and the silver by melting and *tāb* (lustre?), appear below the standard of fineness (*kam-‘iyār*), they must be given back to be melted over again until they are fit for approval for minting.

When the melters have re-melted the metal, the *muṭallis* ("round pieces of "the size of coined money," Blochmann, *Āin*, I, 22, line 31) which in Hindi are called *mālā* (rosary? garland? necklace?) are prepared. And in his own presence he (the superintendent) causes the separate *farah* (blanks or discs?) for the coin to be prepared and makes them over to the strikers. The *aḥharfī* is of 9 *māshah* and 6 *surkh*, the rupee of 10 *māshah* and 2 *surkh*. The Half and Quarter, down to half a *rattī*, are made according to these weights.

The expenses are levied in the following manner and by the following rules:

MAHOMEDANS.—Per *muhr* (gold coin) 5 annas, 5 *gandah* (-20 *kaurī*?)
Per 100 rupees (silver coin), Rs. 2½.

HINDUS.—For these there are two rates:

I. Merchants who are permanently employed.

Per *muhr*, five (5) annas

Per 100 Rupees, Rs. 2-2-0.

II. Money changers and others who are not on the fixed list.

Per *muhr*, seven (7) annas.

Per 100 Rupees, Rs. 3-0-0.

The items which come under the heading "Receipts to be credited to "Government" are as follows. The first item is that from the melters, on account of the sifters (*niyārah*), the fragments of metal being collected by them out of the charcoal ashes. These are called *kusḥ* (sediment?). For this the melters pay in 12 annas per 1,000 coin. The silver men pay 2 rupees monthly and the melters one rupee monthly under the head of Present (*pēshkash*) into the government

treasury. The payments are made over to the *Dīwān* (the chief revenue official) of the province (*sūbah*.)

The melters and the *darrāb* [query read, *ṣarrābān*, the strikers, or preferably *darā-bān*, literally "hammer-man," from *darā*, a smith's hammer, Steingass, 306] take from the merchants (*mahājān*) and others under the head of *ḥaqqu-n-nār* (literally, "right of fire?" that is fee for melting?) seven (7) annas in every thousand [coins]. Over and above this sum they take for the cost of salt and *abl* (?).

The expenses met by government are:

Wages of the <i>darābān</i> (striker?) per 100 coins	...	2½ annas.
Repairs of the <i>ghun</i> (anvil or sledge hammer)		
and <i>mūṣlah</i> (query for <i>mūsil</i> , a pestle, or		
<i>maṣālah</i> , ingredients?) per 1,000	...	½ anna.
Charcoal (<i>angīṣṭ</i>), per 1,000	...	8 annas.

The pay of the *peṣhkāṛ* (head clerk), the *dārogḥāh* (superintendent) the *taḥwildār* (store-keeper and cashier), the melters, the strikers (*sikkahgarān*), the testing officer, and the watchmen posted to the Mint, are provided out of the dues. If any place has a particular rule, that rule is followed. Otherwise the general regulations apply. The coin strikers must be ordered to see that each coin is clearly stamped with the Emperor's name, the year of the reign, and the name of the Mint, also that the edge of the *farṣh* (disc) of the coin is not cracked through insufficient melting and bad testing.

LIBRARY.

The following additions have been made to the Library since the meeting held in April last:—

TRANSACTIONS, PROCEEDINGS AND JOURNALS,

presented by the respective Societies and Editors.

Batavia. Bataviaasch Genootschap van Kunsten en Wetenschappen,—
Notulen, Deel XXXV, Aflevering 3 und 4.

———. Tijdschrift voor Indische Taal-, Land- en Volkenkunde, Deel XL, Aflevering 3.

Brisbane. Queensland Agricultural Journal,—Vol. II, Part 3.

Brussels. Société Entomologique de Belgique,—Annales, Tome XLI.

Budapest. Aquila,—Jahrg. V, Nrn. 1-3.

Calcutta. Indian Engineering,—Vol. XXIII, Nos. 15-17, and Index to Vol XXII.

- Calcutta. *The Indian Lancet*,—Vol. XI, No. 8.
——. *Maha-bodhi Society*,—*Journal*, Vol. VI, No. 12.
- Chicago, Ill. *The American Antiquarian and Oriental Journal*,—Vol. XX, No. 2.
- Dublin. *Royal Dublin Society*,—*Scientific Proceedings*, Vol. VIII (N. S.), Part 5.
——. *Scientific Transactions*, 2nd Series, Vols. V, Nos. 13; VI, 2-13.
- The Hague. Koninklijk Instituut voor de Taal,- Land-en Volkenkunde van Nederlandsch-Indië,—*Bijdragen tot de Taal,- Land-en Volkenkunde van Nederlandsch-Indië*,—6^e Volgr., Deel V, Afdeling 2.
- Helsingfors. Société des Sciences de Finlande,—*Observations publiées par L' Institut Météorologique Central*, 1896; et *Résumé des Années 1881-90*.
- Leipzig. Königlich Sächsische Gesellschaft der Wissenschaften zu Leipzig,—*Math.-phys. Classe, Berichte über die Verhandlungen*, Nrn. V und VI, 1897.
- London. *The Academy*,—New Series, Nos. 1351-53.
——. *Anthropological Institute of Great Britain and Ireland*,—*Journal*, Vol. XXVII, No. 3.
——. *The Athenæum*,—Nos. 3674-76.
——. *Nature*,—Vol. LVII, Nos. 1482-84.
——. *Royal Geographical Society*,—*The Geographical Journal*, Vol. XI, No. 4.
- Mexico. Sociedad Científica "Antonio Alzate,"—*Memorias y Revista*, Tome X, Nos. 5-12.
- Mussorie. *The Indian Forester*,—Vol. XXIV, No. 3.
- Paris. Société de Géographie,—*Comptes Rendus des Séances*, No. 2, 1898.
——. Société Philomathique de Paris,—*Bulletin*, 8^e Série, Tome IX, No. 2.
- Rome. *Revista Geografica Italiana*,—Tome V, Nos. 2 et 3.
——. Società degli Spettroscopisti Italiana,—*Memorie*, Tome XXVII, No. 2.
- Schaffhausen. Schweizerische Entomologische Gesellschaft,—*Mittheilungen*, Band X, Heft 2.
- St. Petersburg. Russisch-Kaiserliche Mineralogische Gesellschaft zu St. Petersburg,—*Verhandlungen*; Zweite Serie, Band XXXV, Nr. 1.
- Taiping. Perak Government,—*Gazette*, Vol. XI, Nos. 8-10.
- Tring. *Novitates Zoologicae*,—Vol. V, No. 1.

- Turin. R. Accademia della Scienze di Torino,—Atti, Tome XXXIII, Nos. 1-6.
- Upsala. Kongl. Humanistiska Vetenskaps-Samfundet i Upsala,—Skrifter, Band V.
- Vienna. K. K. Zoologisch-botanische Gesellschaft in Wien,—Verhandlungen, Band XLVIII, Nr. 1.
- Washington. Biological Society of Washington,—Proceedings, Vol. XII, pp. 31-84.

BOOKS AND PAMPHLETS.

presented by the authors, translators, &c.

- MITRA, VIHARI-LALA. Yoga-Vāsishtha-Mahārāmāyana of Vālmiki, translated from the original Sanskrit. Vol. III. 8vo. Calcutta, 1898.

MISCELLANEOUS PRESENTATIONS.

- Historical Records of New South Wales. Vol. V.—1803, 1804, 1805. Edited by F. M. Bladen. 8vo. Sydney, 1897.

BOARD OF INTERNATIONAL EXCHANGES, SYDNEY.

- Report of the Sixty-Seventh Meeting of the British Association for the Advancement of Science held at Toronto in August 1897. 8vo. London, 1898.

- BRITISH ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE, LONDON
Return of the Charges of the Ecclesiastical Establishment in India for the year 1895-96 on account of the Church of England, Church of Scotland, Church of Rome and other Churches; and showing, as far as possible, in the several Provinces of British India, what payments are made at stations, (a) where there are European Troops, and (b) where there are no European Troops. Fcp. London, 1897.
- Selection from the Records of the Government of India, Home Department, No. CCCLII. Fcp. Calcutta, 1898.

GOVERNMENT OF INDIA, HOME DEPARTMENT.

- The Plague in India, 1896, 1897. Compiled by R. Nathan, Vols. I-IV. 8vo. Simla, 1898. GOVT. OF INDIA, REV. AND AGRI. DEPT.
- Report on the Administration of the N.-W. Provinces and Oudh for the year ending 31st March, 1897. Fcp. Allahabad, 1898.

GOVERNMENT OF N.-W. PROVINCES AND OUDH.

- PAL, DHIRENDRA NATH. Srikrishna: His Life and Teachings. Vol. I. 8vo. Calcutta, 1896. DR. A. F. R. HOENLE.

- Annals of the Royal Botanic Garden, Sibpur. Vol. VIII, Parts, 1 to 4. 4to. ROYAL BOTANIC GARDEN, SIBPUR.

Annual Report of the Sanitary Commissioner with the Government of India, for the year 1896. Fcp. Calcutta, 1898.

SANITARY COMMISSIONER, WITH THE GOVT. OF INDIA.

CONKLIN, EDWIN GRANT. The Embryology of *Crepidula*. 8vo. Boston, 1897.

UNIVERSITY OF PENNSYLVANIA.

Zoologiska Studier. Festskrift Wilhelm Lilljeborg tillegnad På Hans Åttionde Födelsedag af Svenska Zoologer. 4to. Upsala, 1896.

UNIVERSITY OF UPSALA.

PERIODICALS PURCHASED.

Berlin. Zeitschrift für Ethnologie.—Heft VI, 1897.

Braunschweig. Jahresbericht über die Fortschritte der Chemie und verwandter Theile anderer Wissenschaften,—Heft V, 1891; II, 1896.

Geneva. Archives des Sciences Physiques et Naturelles,—4^e Série, Tome V, No. 3.

Leipzig. Annalen der Physik und Chemie,—Band LXIV, Heft 3.

———. ———. Beiblätter, Band XXII, Heft 3.

London. Numismatic Circular,—Vol. VI, No. 65.



PROCEEDINGS
OF THE
ASIATIC SOCIETY OF BENGAL,
FOR JUNE, 1898.

The Monthly General Meeting of the Asiatic Society of Bengal, was held on Wednesday, the 1st June, 1898, at 9-15 P.M.

SURGEON-MAJOR L. A. WADDELL, M.B., LL.D., in the chair.

The following members were present :—

Dr. A. Alcock, Dr. A. R. S. Anderson, Dr. T. Bloch, W. K. Dods, Esq., F. Finn, Esq., D. Hooper, Esq., Dr. F. P. Maynard, M. J. Seth, Esq.

Visitor : Dr. Christie.

The minutes of the last meeting were read and confirmed.

Fifty-three presentations were announced, details of which are given in the Library List appended.

The following gentlemen duly proposed and seconded at the last meeting of the Society were ballotted for and elected Ordinary Members :—

Babu Bepin Behari Gupta.

M. le Docteur Palmyr Cordier.

Surgeon-Major H. J. Dyson.

Donald Sunder, Esq.

The following gentleman is a candidate for election at the next meeting :—

James Wyness, Esq., proposed by Dr. G. Watt, C.L.E., seconded by W. A. Lee, Esq.

Surgeon-Lient.-Col. G. Ranking has expressed a wish to withdraw from the Society.

The SECRETARY reported the death of the following member :—
Rao Govind Rao Narayan.

The Numismatic Reporter read Reports on the finds of the following Treasure Trove coins :—

I. REPORT ON 141 old coins forwarded by Deputy Commissioner of Hoshangabad, with his No. $\frac{963}{\text{G. V. 29}}$, dated 29th February, 1897.

The coins are stated to have been found in the house of a certain Nemichand in Mauza' Jharlera, Tahsil Seoni (Malwa). They are 1 gold coin, and 140 silver coins, all in very fair condition. They belong to the Mughal Emperors Akbar, Jahāngir and Shāhjahān, and may be thus classified :—

AKBAR (A.H. 963–1014 = A.D. 1556–1605) :

Silver Rupees of the following types :—

- (1) Square issues, with *kalimah*; usual type, as in
Brit. Mus. Cat., No. 122 foll.

Hijrah years : 998 (Mint. *Dāru-l-khilāfat*)¹; 990⁸
(on one : Mint Aḥmadābād); 992¹; 994¹;
997¹; 1000⁸ (on two : Mint *Urdū-i-ḡafar-qarīn*) 10

- (2) With Ilāhi years; two varieties :

(a) square, as in Brit. Mus. Cat., No. 199;
Mint Tattah, Ilāhi year 4⁸;

(b) round, as in Brit. Mus. Cat., No. 204, Mint
Agrah, I. y. 44¹; as in Brit. Mus., No.
178; Mint Aḥmadābād, I. y. 14¹ ... 4

- (3) Imitation of Gujarat Fabric, as in Brit. Mus.
Cat., No. 254 ... 1: 15

JAHĀNGIR, (A.H. 1014–1037 = A.D. 1605–1628) :

- (1) Gold coin, type similar to Brit. Mus. Cat. No. 311,
Mint Aḥmadābād, Ilāhi month Āzur, year gone 1

Silver Rupees of the following types :—

- (2) With Ilāhi years :

(a) New variety : *Obv.* square area, with semi-
circles in margin;

Rev. within wavy border. Legend similar
to Brit. Mus. Cat., No. 441;

Mint Agrah, Hijrah year 1021, Ilāhi year 7,
month Amardād ... 1

(b) as in Brit. Mus. Cat., No. 447, Lāhōr, I. y.
6 and 7 ... 2

- (c) as in Brit. Mus. Cat., No. 467, Tattah, I. y. 10 1
 (d) similar to Brit. Mus. Cat., No. 473, Mint
 Burhānpur, year gone ... 1
- (3) With couplet :
 (a) as in Brit. Mus. Cat., No. 491, Lāhōr,
 1032 (18) and 1036 (21) ... 2
 (b) as in Brit. Mus. Cat., No. 470-72, Qandahār
 [10]31 ... 1
- (4) With name of Nūr-Jahān : as in Brit. Mus. Cat.,
 No. 516, Lāhōr, 1034 (20 *julūs*) ... 1 : 10
- SHĀHJAHĀN (A.H. 1037-1068=A.D. 1628-1658) :
- Silver Rupees of the following types :
- (1) With two square areas, as in Brit. Mus. Cat., No.
 605, Mint Burhānpur 1042⁴, 1043¹⁸; one coin
 is from a new Mint Zafarnagar (a place near
 Burhānpur), H. year 1043; one coin struck at
 Burhānpur 1042, adds to legend on *Rev.* (to
 name of king) the formula: *Khallada-llāhu*
mulkahu and regnal year 5 ... 24
- (2) *Kalimah* in circle or *Obv.*, type of Brit. Mus. Cat.,
 No. 588; Mint Akbarābād 1039⁷, 1040⁶, Bur-
 hānpur 1040²; Delhi 1040¹; Multān 1041¹,
 1042² ... 18
- (3) Similar type, but *kalimah* within six-foil, as in
 Brit. Mus. Cat., No. 594, Mint Akbarābād 1040 1
- (4) *Obv.* within diamond border, as in Brit. Mus.
 Cat., No. 536; Mint Burhānpur 1040¹⁸, one
 coin of same mint, but no Hijrah year ... 13
- (5) Type as in Brit. Mus. Cat., No. 585-6; Mint
 Aḥmadābād 1038¹; Burhānpur 1037¹, 1038¹;
 one of same mint, no date, very crude, perhaps
 forgery; Sūrat 1038⁹, 1040⁸; Dārū-l-khilāfat
 Āgrah 1038 (as in Brit. Mus. Cat., No. 581)¹;
 on two coins of Lāhōr Mint (1037 and 38) the
 legend of *Rev.* differently arranged, as in Brit.
 Mus. Cat., No. 621 ... 19
- (6) An apparently new type :—
Rev. in three lines : centre line : *Kalimah* with
 date (Hijrah year); above and below : first
 and second hemistich of the verse begin-
 ning with : *bi-ṣidq-i-Abi-Bakr* ;
Obv. legend as on Brit. Mus. Cat., No. 625, but

	regnal year above <i>ṣā</i> in third line. Mint Akbarābād 1039 ² , 1040 ¹ ; Burhānpur ⁴ (date 1040 on one coin, on others gone); Mint gone on others, date 1041 ³ , 1042 ³ , on one gone 14	
(7)	With Ilāhī years, type as in Brit. Mus. Cat., No. 589, Mint Akbarnagar I. y. 2 (H. y. 1038) ¹ , I. y. 3 (H. y. 1039) ³ , I. y. 4 (H. y. gone) ¹ ; Burhānpur I. y. 2 (H. y. 1038) ¹ , I. y. 3 (H. y. on one 1040, on two gone), ³ one coin of same mint is probably a forgery; Delhi (I. y. and H. y. gone) ³ ; Multān I. y. 2 (H. y. 1039) ³ , I. y. 3 (H. y. 1039) ¹ ; Zafarnagar I. y. 2 ³ ; ... 17	
(8)	Similar type, but <i>Obv.</i> legend in 3 lines only, Mint Multān I. y. 3 ¹ , on others gone ... 3	
(9)	Subvariety of same type: Mint Akbarnagar 1037 ¹ , Delhi 1037 ² , Patnah 1738 ¹ ... 4	
(10)	One coin, with Ilāhī year (<i>aḥad</i>) on <i>Obv.</i> , and Mint Burhānpur on <i>Rev.</i> ; two coins with Ilāhī 5 on <i>Obv.</i> , Mint gone 3: 116	
	Total 141	

II. REPORT ON 40 old Silver Coins, forwarded by Deputy Collector of Bhagalpur with his No. $\frac{G}{2525}$, dated 19th February, 1897.

The coins were found on the 27th February, 1896, by one Munshi Mundar of Jogsur, Thana Kotwali, Town Bhagalpur, while digging earth in his own compound. They are Rupees of the Mughal Emperors Akbar, Jahāngīr and Shāhjahān; most of them are in an indifferent condition.

They may be thus classified :—

AKBAR (A.H. 963–1014 = A.D. 1556–1605) :

Ilāhī Rupees of Aḥmadābād Mint, as in Brit. Museum Cat., No. 178. Date (in Ilāhī years) 41⁴, 43¹, 44²; all other specimens show only fragments of the date ... 20

JAHĀNGĪR (A.H. 1014–1037 = A.D. 1505–1628) :

(1). Ilāhī Rupees of Patna Mint, as in Brit. Mus. Cat., No. 467; Date in Hijrah and Ilāhī years : 1024 (10)¹, 1026 (12)¹, 1029 (15)¹, 1031 (16)¹, 1032 (17)¹, 1032 (18)¹, 1033 (19)¹, on one coin, date illegible 8

- (2). With *Kalimah*, Mint and Date on *Obv.*, as in Brit. Mus. Cat., No. 403. Only one coin shows traces of mint, probably Aḥmadābād ... 3: 11

SHĀHJAHĀN (A.H. 1037–1068 = A.D. 1628–1658):

Square areas, regnal year within square area of *Rev.*, above letter *shā*; Hijrah year within square area and margin of *Obv.* Name of Mint gone on all specimens. Date: H. y.³ (R. y. 15)¹; H. y. 1052 (16)¹; 1053 (17)²; 1054 (18)²; 1054 (18)²; on one coin illegible 9

Total ... 40

III. REPORT ON 20 old coins, forwarded by Maulavi Faḡl-ullāh, Sub-Registrar of Gaya, with his letters, dated 27th May, 1897, and 9th July, 1897.

They were found some 10 feet below the surface of the earth, when a well was sunk in a village called Erki, about 29 miles north of Gaya, situated midway on the Patna and Gaya Road. They belong to the class called 'punch-marked Coins,' and are of silver, 7 being round pieces, and the rest, viz., 13 approximately square or oblong pieces. The punch-marks on the *Obv.* of these coins are the usual ones; the *Rev.* of a few pieces shows traces of a wheel and some other marks of uncertain meaning. Nothing can be said as to the date of these coins. Speaking generally, this class must be considered the oldest among Indian coins, but we do not know how long the practice of issuing money of this kind continued in the different parts of India.

IV. REPORT ON 163 old coins forwarded by the Deputy Commissioner of Nimar with his No. 2741, dated 6th July, 1897.

Nothing is known as to locality and time of the find.

The coins are Rupees of the Sūri King Shēr Shāh, and the Mughal Emperors Akbar, Jahāngir, Shāhjahān and Aurangzēb, mostly in an indifferent condition.

SHĒR SHĀH (A.H. 946–952 = A.D. 1539–1545):

Type similar to Brit. Mus. Cat., No. 537. Margins gone, Mint and Date illegible 1

AKBAR (A.H. 963–1014 = A.D. 1556–1605):

- (1) Qandahār Ilāhi Rupees: of Aḥmadābād Mint², Burhānpur¹, Delhi¹, Lāhōr (date: Ilāhi years 42 and 46)² 6

- (2) Type as in Brit. Mus. Cat., No. 96, date 985(?),
Mint obliterated ... 1: 7
- JAHĀNGIR (A.H. 1014–1037 = A.D. 1605–1628):
- Ilāhi Rupees, of Aḥmadābād¹, Patna (A.H. 1022)¹,
Qandahār (Ilāhi year 8)¹ ... 3
- SHĀHJAHĀN (A.H. 1037–1068 = A.D. 1628–1658):
- (1) Square Areas;
- (a) usual type: 3 coins of Sūrat Mint, date H. y.
1068 on *Obv.* of one; Regnal years 18 and 32
in square area on *Rev.* of two coins; Mint
and Date of others obliterated ... 31
- (b) on two coins, the square areas are made by
dotted lines, as in Brit. Mus. Cat., No. 549 ... 2
- (2) Type as in Brit. Mus. Cat., No. 587; Mint Akbar-
nagar² (on one, Ilāhi year 12); Sūrat²; Tattah²;
on others obliterated ... 11
- (3) *Kalimah* in Circle on *Obv.*, very much worn off ... 2: 46
- AURANGZĒB (A.H. 1069–1118 = A.D. 1659–1707):
- (1) Usual type, with *badr-i-munir*. Mint: Aḥmadābād,
regnal year 8 (Hijrah year 1075)¹; Aurangābād
30¹; Barāli¹ 36(1103); Bijāpur 2. (1091)¹; Bur-
hānpur 28¹; 47 (1115)¹; 48¹; 49¹; on one, date
obliterated; *Dār-u-l-Khilāfat* Shāhjahānābād 20
(1088)¹; 21 (1089)¹; 32 (1100)¹; on one, date
obliterated; Elichpur 49 (1117)¹; Etawah 31
(1098)¹; 49 (1116)¹; Golkondah 5²; 12¹; 19¹;
24¹; 26¹; Jahāngirnagar 46 (1114)¹; Maḥṣūṣā-
bād 48 (1115)¹; Nārñol 34 (1102)¹; Shāhja-
hānābād 41 (1108)¹; Sūrat 8¹; 12 (1079 and
80)²; 13 (1081)¹; 22 (1090 and 91)²; 24 (1092)¹;
25 (1092 and 93)²; 26 (1093 and 94)²; 27 (1094
and 95)²; 28 (1096)¹; 29 (1097)²; 30 (1097 and
98)²; 31 (1098)¹; 37 (1105)²; 44 (1112)²; on
9 coins of this Mint date obliterated; Tattah 8¹;
Mint obliterated, date in regnal and Hijrah years:
3 (1071)¹; 13²; 14¹; 17¹; 19²; 22²; 23 (1091)¹;
24 (191 *sic.* and 1092)²; 25¹; 26 (1093)²; 28
(1096)¹; 34 (1102)¹; 44 (1111)¹; 47 (1115)¹;
1083¹; 1093¹. On 9 coins, both Mint and Date
are obliterated ... 97
- (2) Variety of same class, with *mihr-i-munir*: date:

	4 ^l , 10 ^l , 18 ^l , 31 ^l , 32 ^l , on one coin obliterated.	
	Mint: Akbarnagar	6
(3)	With square areas, as in Brit. Mus. Cat., No. 734, date: Regnal year 27 on <i>Rev.</i> ; Mint and Hijrah year obliterated	1
(4)	Do, as in Brit. Mus. Cat., No. 733, Mint: Akbarābād, r. y. 15 (H. y. [10]83)	1
(5)	As in Brit. Mus. Cat., No. 728, but legend of <i>Rev.</i> differently arranged. Mint: Kābul, r. y. 4	1 : 106
	Total	163

V. REPORT ON 743 old coins forwarded by the Collector of Darbhanga with his No. 1201, dated Laheria Serai, 7th August, 1897.

The coins were discovered at the time of digging a tank at a village called Ranna Berai. On examining them, I found them to be 28 copper pieces and 715 silver coins, all of which belong to the class commonly known as "Indo-Sassanian coins" or "*Gadhiyā paisā*." Unfortunately, most of them are very much worn off, and they do not therefore throw as much new light on this doubtful class of Hindu coins, as might be expected from such a large find.

They may be thus classified:—

1. *Varāha-coins*:

Obv. Varāha-avatāra of Viṣṇu;

Rev. Legend: *Çrīmad-Ādi-Varāha*, and traces of fire-altar below.

See Cunningham, *Coins of Mediæval India*, p. 49 and Plate VI, figs. 20 and 21; Rapson, *Indian Coins*, § 110 and Plate V, fig. 5. They are attributed to King Bhōjadēva of Kanauj (c. 850–900 A.D.):

(a) Copper-coins	...	...	28
(b) Silver-coins	...	...	23 : 51

2. *Vigraha-coins*:

Obv. Head of King (very rude) to *r.*

Legend: *Çri-Vigraha*;

Rev. Fire-altar with letter *ma*.

See Cunningham, *Archæological Survey Reports* Vol. XI, p. 156 and Plate XLIII, fig. 1; also Cunningham, *Coins of Mediæval India*, p. 49 and Plate VI, fig. 16.

They are ascribed to King Vigrahapāla I, of Magadha (c. 910 A.D.).

Number of pieces (Silver)	9
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3. *Similar type, very rude :**Obv.* Head of king to r.Legend : *Çri-vi-(ha ?)**Rev.* Fire-altar.

Identical with No. 8545–8550, p. 94, Part III, of Mr. Rodgers' Catalogue of Coins in Indian Museum. They look very much like a crude imitation of type 2, the only difference being the absence of the letter *ma* on *Rev.* and a different arrangement of the legend on *Obv.* Most of the specimens belonging to this type are very much worn, showing only slight traces of *Çri* on *Obv.* The letter *vi* is visible on about 100 specimens; after this on about 10 specimens, traces of a third letter, perhaps *ha*, can be seen. What the complete legend of *Obv.* really was, remains doubtful, but the coins may safely be described as a rude imitation of the Vighraha-Type (No. 2).

Number of pieces (Silver)	...	...	683
Total	...	...	743

VI. REPORT ON 14 old Silver Coins, 30 broken pieces of such, and 2 melted pieces, forwarded by Covenanted Deputy Collector in charge of Deputy Commissioner's Office, Sonthal Parganas, with his No.

^R
8837, dated 10th December, 1897.

The coins are reported to have been found by a boy in Chandsar, a village in the Rajmahal Subdivision, Sonthal Parganas, where they lay buried under-ground in a small earthen pot. Out of the 30 broken pieces, six complete coins could be put together, the total amount of coins thus being 20. All of them are Rupees of the Independent Kings of Bengal. They are, as a rule, in a fair condition, the legends being clearly legible, but, unfortunately, the margins, containing the date are gone in most of them. Coins of this class are rare, and possess a great numismatic value.

Their classification is thus :—

SIKANDAR SHĀH I. (A.H. 759–792 = A.D. 1358–1389):

as in Brit. Mus. Cat., No. 37. Mint Firōzābād on one coin, Date obliterated 2

GHIVĀṢU-D-DĪN A'ẒAM SHĀH (A.H. 792–799 = A.D.

1389–1396): as in Brit. Mus. Cat., No. 60. Mint and Date obliterated	2
Posthumous coin, struck in the name of A'zam Shāh : as in <i>Proceedings</i> , Asiatic Society of Bengal, 1874, p. 156 ff, and <i>Journal</i> , A. S. B., Vol. XLIII, Part 1, 1874, p. 294; date 813 ¹ , 81. ¹	2
SHIHĀBU-D-DĪN BĀYAZĪD (A.H. 812–817=A.D. 1409–1414):	
(1) as in Brit. Mus. Cat., No. 67; Mint and Date obliterated	2
(2) as in Brit. Mus. Cat., No. 68; margin of <i>Obv.</i> reads: | بوبکر | ضرب | عمر | فیروز | عثمان | بباد | علی | ۸۱۶ |	
Mint: Firōzābād, date 816	3
(3) as in Brit. Mus. Cat., No. 71; margin of <i>Obv.</i> same as above; Mint: Firōzābād 817 ⁴ , on one coin obliterated	5
JALĀLU-D-DĪN MUHAMMAD (A.H. 817–834=A.D. 1414–1430): as in Brit. Mus. Cat., No. 72. Mint: Firōzābād on one coin, date 819 on one coin, on others illegible	4
Total	20

VII. REPORT ON 615 old Silver Coins, forwarded by the Offg. Deputy Commissioner of Bhandharia with his No. 616, dated 15th February, 1898.

The coins are stated to have been found buried in the village of Jam in the District of Bhandaria. They were described as “Nagpuri Rupees,” but really they are Rupees of the Mughal Emperors Muḥammad Shāh and Aḥmad Shāh :

Of Muḥammad Shāh (A.H. 1131–1161=A.D. 1719–1748) there are 50 Rupees, all from the Sūrat Mint, 46 bearing the date: regnal year 28.

Of Aḥmad Shāh (A.H. 1161–1167=A.D. 1748–1754) there are 565 Rupees, all from the Katak (Cuttack) Mint; most of them have the regnal year 5, to which, however, on a good many specimens the figures 7 or 12 or some other units are added (see also coin No. 9123 in Catalogue of Indian Museum, Part II, p. 71). I am unable to account for this curious irregularity.

VIII. REPORT ON 110 old coins, and 6 broken pieces of such, forwarded by Deputy Commissioner of Rawalpindi, with his No. 936-G, dated 9th March, 1898.

The coins were found in a ravine within the limits of Nakka, a village in the Pindi Gheh Tahsil of the Rawalpindi District. They are all silver coins (*dirhams*) of the early Pathan Sultān of Delhi, Muḥammad ibn Sām, mostly in an indifferent condition.

The following varieties are found among them :—

MUḤAMMAD IBN SĀM (A.H. 589-602=A.D. 1193-1205) :—

(1)	Type as in Brit. Mus. Cat., No. 2, Mint: Ghazniḥ on three coins; date: <i>fi-l-awwal zi-l-ḥijjah</i> "on the first day of Zu-l-ḥijjah" on two coins; <i>fi zi-l-ḥijjah</i> , year 596 on one; others illegible	...	4
(2)	Type as in Brit. Mus. Cat., No. 3; only fragments of date legible	...	2
(3)	Type as in Thomas' <i>Chronicles</i> , p. 17, No. 4	...	1
(4)	Type as in <i>Journal</i> , As. Soc. Beng. Vol. LII, 1883, Part I, p. 57, No. 9=Plate IV, No. 9; Mint and Date obliterated	...	2
(5)	Issue of Tājū-d-din Yildiz: as in Brit. Mus. Cat., No. 20. Date: 608 on 8 coins; on four coins perhaps 610, on others obliterated	...	101
Total			110

Of the 6 broken pieces, 5 belong to coins of type No. 5, and one to a coin of type No. 1.

IX. REPORT ON 121 old Silver Coins, forwarded by Deputy Commissioner of Rawalpindi District, with his No. 937 G., dated 9th March, 1898.

The coins were found within the common lands of Dhak Halim, a hamlet in the Pindi Gheh Tahsil of the Rawalpindi District. They are all Rupees of the following Mughal Emperors:

SHĀHJAHĀN (A.H. 1037-1068=A.D. 1628-1658):

Type: Square Areas; Mint and Date illegible ... 2

AURANGZĒB (A.H. 1069-1118=A.D. 1659-1707):

Usual type, with *badr-i-munir*; Mint: Etāwā 1099¹, 1114², 1117¹; Nārñōl² (1117 on one coin); Sūrat² (1115 on one coin); Mint and Date illegible¹² ... 28

JAHĀNDĀR (A.H. 1124=A.D. 1712):

Usual type; Mint and Date illegible ... 2

FARRUKH-SIYAR (A.H. 1124–1124 = A.D. 1713–1719):

Usual type; Mint: Dārū-l-khilāfah Shāhjahānābād⁴
(*sanah aḥad* on 3 coins); Dārū-s-saltānah (Lāhōr?)
4³; Sūrat¹; others illegible 14

MUḤAMMAD SHĀH (A.H. 1131–1161 = A.D. 1719–1748):

(1) Usual type (Brit. Mus. Cat., No. 978 ff.); Mint:
Dārū-s-saltānah Lāhōr 14², 20¹, 21¹, 25¹, 28¹, 30¹,
illegible¹; Etāwā 4²; Multān 14¹; Mustaqarru-l-
khilāfah Akbarābād 12¹, 17¹, 18¹, 20², illegible²;
Siwāi Jaipur 18¹; 28¹; Sūrat¹; illegible¹⁷ ... 37

(2) With *Shāhib-qirān-i-ḡānī*; Mint: Dārū-l-khilāfah
Shāhjahānābād 9¹, 11², (1141)¹, 12 (1142)¹, 17¹,
18¹, 20², 23 (1154)², 28¹, 30¹, illegible⁶; Mint
and Date illegible⁴ 24

AḤMAD SHĀH (A.H. 1161–1167 = A.D. 1748–1754):

Usual type; Mint: Dārū-l-khilāfah Shāhjahānābād
(*sanah aḥad*)¹; Mustaqarru-l-khilāfah Akbarābād 2¹, 3¹ 3

‘ĀLAMGĪR II (A.H. 1167–1173 = A.D. 1754–1759):

Usual type; Mint: Dārū-l-khilāfah Akbarābād (*sanah
aḥad*)¹; Dārū-s-saltānah Lāhōr (*sanah aḥad*)²; Sūrat
3 (?)¹... ... 4

SHĀH ‘ĀLAM (A.H. 1173–1221 = A.D. 1759–1806):

Usual type; Mint: Mustaqarru-l-mulk² (with years
2 and 4); others uncertain 7

Total ... 121

**X. REPORT ON 11 Gold Coins and 36 pieces of such coins, forwarded
by Deputy Commissioner of Jubbulpore with his No. 1468, dated
16.3.98
18.3.98**

Nothing is known as to time and locality of the find. It is merely
stated that the pieces were broken by the finders. The coins belong
to the following classes:—

Sultāns of Delhī :

MUḤAMMAD II. IBN TUḠHLAQ (A.H. 725–752 = A.D.
1324–1351):

(1) same as in Brit. Mus. Cat., No. 260–262; Mint:
Delhi, 726 1

(2) dinār struck in the name of the Abbaside Khalif Al-Ḥākim (A.H. 741-753); as in Brit. Mus. Cat., No. 335	...	...	2
FIRŌZ SHĀH III. TUḠHLAQ (A.H. 752-790=A.D. 1351- 1388): as in Brit. Mus. Cat., No. 343	...	...	1
MUḤAMMAD SHĀH IV. IBN FARĪD (A.H. 837-847=A.D. 1433-1443): as in Thomas' <i>Chronicles</i> , p. 336, No. 291	...	...	1

Bahmanī Sultāns of the Dēkhan :

'ALĀ'U-D-DĪN AḤMAD SHĀH II. (A.H. 838-862=1435- 1457): as in Indian Museum Catalogue, Part I, p. 113, No. 7212	...	...	...	1
MUḤAMMAD SHĀH II. (A.H. 867-887=A.D. 1463-1482): as in Indian Mus. Cat., Part I, p. 114, No. 7210: date 875 on one coin	...	...	...	3
MAḤMŪD SHĀH II. (A.H. 887-927=A.D. 1782-1518): New coin:				

Obv.

المتوكل على
الله القوي الغني
السلطان الاعظم

Rev.

Within Square Area:

ابوالغازي
محمد شاه بن محمد شاه
الوالي بهمني

In margin perhaps احسنا باد 1

Kings of Jaunpur :

ḤUSAIN SHĀH (A.H. 863-881=A.D. 1458-1476): as in Thomas' <i>Chronicles</i> , p. 322	...	...	...	1
Total	...	...	...	11

XI. REPORT ON 12 old coins, forwarded by Deputy Commissioner of Rawalpindi District, with his 1236-G, dated 23rd March, 1898.

The coins were found in Rajar a village of the Rawalpindi District. They are Rupees of the Mughal Emperors Akbar and Shāhjahān.

AKBAR (A.H. 963-1014=A.D. 1556-1605):

(1) Ilāhī Rupees: Mint Aḥmadābād, Ilāhī years 3 and 43 (as in Brit. Mus. Cat., No. 178) ² ; Mint Kābul, Ilāhī year 47 (as in Brit. Mus. Cat., No. 221) ² ; Mint Lāhōr, Ilāhī year 41 (as in Brit. Mus. Cat., No. 215) ¹	5
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- (2) Late imitation of Guzarat Fabric, as in Brit. Mus. Cat., No. 254... 1: 6

SHĀHJAHĀN (A.H. 1037-1068 = A.D. 1628-1658):

- (1) With square areas, Mint: Sūrat 1044¹; Kābul, date obliterated¹; Mint obliterated, date 1046 at bottom of area on *Obv.*, regnal year 9 in area of *Rev.*¹ ... 3
- (2) *Kalimah* within circle on *Obv.*, regnal year 19 on *Rev.*, Mint obliterated ... 1
- (3) With Ilāhī year 15 on *Obv.*, Mint Tattah, Hijrah year 1051 on *Rev.* (see Brit. Mus. Cat., No. 643) 1
- (4) *Nigār*: Mint: Dārū-l-khilāfah Akbarābād, 1054, regnal year 17 ... 1: 6
- Total ... 12

XII. REPORT ON 317 old Silver Coins forwarded by Collector of Mymensingh with his No. 104, dated 15th April, 1898.

The coins were found on the 27th December, 1897, by one Girish Chandra Aich Roy of Jashodal, Station Kishoregunge, Post Office Jashodal, in District Mymensingh. They are Rupees of different Bengal Sultāns; a few coins belong to the Bahmani Sultān Tāju-d-din Firōz Shāh, to the Sūri Kings Islām Shāh and Muḥammad Shāh, and the Mughal Emperor Humāyūn. As is the case with nearly all the Bengal coins, they are generally much disfigured by shroffmarks, a few specimens being too badly damaged as to be identified at all. There are a few rare specimens among this find, which possess great numismatic value; the majority, however, belongs to more or less known and common types.

Coins of Bengal Sultāns:

SIKANDAR SHĀH I (A.H. 759-792 = A.D. 1358-1389):

As in British Mus. Cat., No. 32-36; date with the exception of *sab'ina* (70) illegible ... 1

GHĪYĀṢU-D-DĪN A'ZĀM SHĀH (A.H. 792-799 = A.D. 1389-1396):

New variety: *Obv.* uncertain, probably legend of Brit. Mus. Cat., No. 60;

Rev. المريد بقائيد الرحمن
فياث الدنيا و الدين
ابوالمظفر اعظم شاه
ابن مسعود شاه ابن الياضي
(شاه السلطان)

... 1

JALĀLU-D-DĪN FATḤ SHĀH (A.H. 886–892=A.D. 1481–1486):

As in Brit. Mus. Cat., No. 98 ... 2

SHAMSU-D-DĪN MUẒAFFAR SHĀH (A.H. 896–899=A.D. 1490–1493):

As in Brit. Mus. Cat., Nos. 105–107; date 896 on one specimen; others, illegible ... 4

‘ALĀ’U-D-DĪN ḤUSAIN SHĀH (A.H. 899–925=A.D. 1493–1518):

(1) Type of Brit. Mus. Cat., Nos. 122–131, with *al-fātiḥ* *li-l-kāmru*, etc.

Mint Dāru-ḡ-ḡarḡ 922⁴; Fathābād³; Ḥusainābād 919¹², illegible⁴; Muḥammadābād 910¹, illegible¹² 41

(2) With *Kalimah* on *Obv.*:

(a) Legend of *Rev.* as in Brit. Mus. Cat., No. 108;
Mint: Ḥusainābād 889 (?)³; *Khizānah* 889 (?)¹, illegible³ ... 6

(b) Legend of *Rev.* as in Brit. Mus. Cat., No. 113;
Mint, Fathābād 899¹¹, illegible³; Mint illegible⁶ ... 18

(c) New Variety: Mint illegible, date [9] 18;

Rev. علماء الدنيا

والدين ابو المظفر

حسين شاه سلطان

ابن سيد اشرف حسيني

خلد الله ملكه

(3) With *as-sulṭān al-‘ādil* on *Obv.*:

(a) As in Brit. Mus. Cat., Nos. 119–121; Mint Ḥusainābād 89 (*sic!*)³, 8 (*sic!*)³; illegible² ... 13

(b) Similar, but legend of *Obv.* differently arranged; *Rev.* begins with *sulṭān* and reads *khullida mulkuhu wa-sulṭānuhu*. Mint: Muḥammadābād [9]12 ... 1

(c) Similar, but *Ḥusain Shāh as-sulṭān* on *Rev.*, and *khullida mulkuhu*. Mint: Dāru-ḡ-ḡarḡ 904 (?)¹², illegible⁴ ... 17

Of doubtful type ... 9: 105

NĀṢIRU-D-DĪN NAṢRAT SHĀH (A.H. 925-939=A.D. 1518-1532):—

(1) With ornamented borders:

- (a) As in Brit. Mus. Cat., No. 134-136; Mint: Ḥusainābād 925¹²; Mint illegible, same date³; one very crude specimen bears neither Mint nor Date ... 16

[*Note:* Here and in other specimens the last line of *Rev.* reads *dāru-ḡ-ḡarb*, and not (*sic!*) *دَارُو-ن-نَاصِر* or *dāru-n-naṣr*, as has been read by the compilers of the British Museum Catalogue.]

- (b) Same legend, but different ornaments. Mint: Ḥusainābād (on *Obv.*); *dāru-ḡ-ḡarb* 925 (on *Rev.*)⁴; others illegible ... 12
- (c) Similar, but *Rev.* reads: *Naṣrat Shāh bin Ḥusain Shāh Sayyid Ḥusaini*; *dāru-ḡ-ḡarb* is left out; Mint: Ḥusainābād 925⁷; one illegible ... 8

(2) Double-lined border, in some specimens with dots between:—

- (a) legend as in Brit. Mus. Cat., No. 137; Mint: Naṣratābād² (on one coin: 927 on *Obv.*); *Dāru-ḡ-ḡarb*⁶ (on two coins date: 925); illegible¹⁶ ... 23
- (b) a variety of same: *nāṣir* in second (instead of third) line of *Obv.*; Mint: *Dāru-ḡ-ḡarb* (on *Rev.*, last line of *Obv.* uncertain)⁸ (date: 925 on 6 coins); Faṭḥābād (in last line of *Obv.*), *dāru-ḡ-ḡarb* 925 (in last line of *Rev.*)¹⁰; Ḥusainābād 925⁵ (on 4 coins: *dāru-ḡ-ḡarb* Ḥusainābād 925 in last line of *Rev.*; on 1 coin: *Ḥusainābād* in last line of *Obv.*, the remainder in last line of *Rev.*); *Khālifābād* 932⁴ (this is extremely uncertain; the mint name reads *خليفة* on one specimen, others doubtful); Muḥammadābād⁶, dates: 926, 928, 932, 934, 935, 936 (the last 4 coins read *Naṣrat Shāh sulṭān bin Ḥusain Shāh sulṭān* instead of *as-sulṭān*, on *Rev.*); Mint doubtful, date 932 and 939²; Mint and Date illegible³ ... 53
- (c) another variety; *Naṣrat Shāh* transposed from beginning of *Rev.* to end of *Obv.*; no Mint; date uncertain ... 1
- Of doubtful type... ... 10: 123

ĀLĀ'U-D-DĪN FIRŌZ SHĀH (A.H. 939=A.D. 1532): ornamented border; legend as in Brit. Mus. Cat., No. 145;

Mint; Fathābād^a; Husainābād^a; doubtful or illegible^a 10
 Ghiyāṣu-d-Dīn Māḥmūd Shāh III. (A.H. 933-947 = A.D. 1526-1537):—

- (1) Usual type, with *badr-i-shāhī* in small circle;
 (a) as in Brit. Mus. Cat., Nos. 147-148; Mint Husainābād^a; Khalifābād (?) 933^a; Naṣratābād 933^a; Mint illegible, date 938^a; Mint and Date illegible^a 14
 (b) similar, but date on *Obv.*; mint: Fathābād 933 ... 3
 (c) as in Brit. Mus., 149-151 (with *Shāh* on *Obv.*); Mint: Husainābād^a (date 939 on two specimens); Muḥammadābād¹; Naṣratābād¹; on others doubtful 11
 Of doubtful type 13
 (2) Lettered surfaces, new type, different varieties:—

<i>Obv.</i>	<i>Rev.</i>
السلطان	السلطان
بن السلطان غياث	بن حسين شاه
الدنيا و الدين ابو	السلطان حسيني خلد
المظفر محمود	الله ملكه و سلطا (sic.!)
شاه ٩٤٥	حسيناباد

Mint Husainābād 945 (?)^a; on others illegible ... 13: 54

Coins of Bahmanī Sulṭāns:

Tājū-d-Dīn Fīrōz Shāh (A.H. 800-825 = 1397-1721):

as in Brit. Mus. Cat., No. 449-452 ... 2

Coins of Sūrī Dynasty:

Islām Shāh (A.H. 952-960 = A.D. 1545-1552):

- (1) as in Brit. Mus. Cat., No. 619 ... 1
 (2) uncertain *Obv.* portion of *Kalimah* within square area, and *as-sulṭān* beneath; *Rev.* in looped pentagon: *as-sulṭān khallad Allāhu mulkahu* 955 1: 2
 Muḥammad Shāh (A.H. 960-964 = A.D. 1552-1556):
 a doubtful piece 1

Coins of Mughal Emperors:

Humāyūn (A.H. 937-960 = A.D. 1530-1554):

A new and probably unique type, of decidedly Bengal Mintage; apparently Rupees struck by Humāyūn while residing at Gaur (Jannatābād; see Riyāz, p. 144, and Stewart, p. 124):

Obv. in circle: *Muḥammad Humāyūn bādshāh-i-ghāzī* (or simply *ghāzī*). In margin of one coin 94, and traces of legend.

<i>Rev.</i> in larger circle with lettered margin or in double-lined border : <i>Kalimah</i> and <i>Qorān</i> , II, 208 ...				3
Unidentified coins :—				
(a) A piece, divided in 6 fields. Legend :				
<i>Obv</i> : بارنا (P) الدنيا والدين ابو المظفر ماربل (P) شاه السلطان ابن				
<i>Rev</i> : فرماں خلد الله ملكه و سلطانه (P) ۹۴				
(b) Another piece, legend in curious characters ...				2
Illegible coins ...	...	...	...	7
Total ...				317

XIII. REPORT ON 107 old copper coins, forwarded by Deputy Commissioner of Gujranwala District, with his No. 810, dated 14th April, 1898.

The coins are reported to have been found "in a village pond in an earthen vessel"; no further particulars stated. They are all copper coins (*dām*) of the *Sultāns* of the *Sūri* Dynasty, generally in a fair condition; *viz.* :—

SHĒR SHĀH (A.H. 946–952 = A.D. 1540–1545) :

- (1) Square areas, usual type, different varieties. Mint:
 - Āgrah 951²; Alwar 951¹; Gwālyār 950³, 951¹;
 - Hiṣār² (dates illegible); Nārñol 951¹, (dates illegible)²; Sambhal 950¹; Shērgarh 950², 951¹, 952¹; on two coins, Mint and Date obliterated ... 23
- (2) Type as in *Journal*, As. Soc. of Bengal, Vol. LIX, 1890, Part I, Plate III, 13, etc. Different varieties; dates 949¹; 950³; 951¹; on others illegible 18
- (3) As in Indian Museum Catalogue, Part 1, p. 96, No. 13038; date 95 ... 1
- (4) Legends uncertain, probably new varieties ... 2
- (5) Small size, legends uncertain ... 5: 49

ISLĀM SHĀH (A.H. 952–960 = A.D. 1545–1552) :

- (1) Lettered surfaces, usual type, as in *Journal* As. Soc. of Bengal, Vol. LIX, 1890, Part I, p. 163, Type II. Different varieties; dates: 952²; 955³; 956³; others illegible ... 39

[*Note* : In a few specimens of this class as well as of No. 2 of *Shēr Shāh*'s coins the legend of *Obv.* clearly runs thus :—

في عهد الامير الحامي لدين الدين
fi 'ahdi-l-amir al-ḥāmī li-dīni-d-dayyān,

"in the reign of the Amir, the protector of the divine faith" (*dayyān*, lit. 'judge,' being one of the names of God). This is evidently the originally intended wording of this much disputed legend; and Dr. Hoernle's remarks (*l. c.* p. 115) should be corrected accordingly.]

- (2) New variety of same type; date 959, *al-ḥāmī* of
obv. is divided so that *alḥā* stands on proper
 right side, and *mī* on proper left side ... 1: 40

MUHAMMAD SHĀH (A.H. 960-964 = A.D. 1552-1556):

- (1) Usual type, as in *Journal As. Soc. of Bengal*, *l. c.*
 p. 167, Type I. Dates 961⁶; 962⁸; others illegible 10
 (2) Small size, legends uncertain ... 6: 16
 Two coins among this lot were too much worn off to
 be identified with certainty ... 2
-
- Total ... 107
-

XIV. REPORT ON 39 old silver rupees, forwarded by Collector of Saran District, with his No. 311-G., dated 7th May, 1898.

The coins are reported to have been found in a village called Mithadur in the Chapra Thana of Saran District, while a well was being dug, in May, 1897. They are all rupees of the Mughal Emperor Shāh Ālam II. (A.H. 1173-1221 = A.D. 1759-1806) of the 'Azimābād (Patna) Mint, struck in the regnal years 7, 8 and 9: viz., 11 coins of year 7; 10 coins of year 8; and 18 coins of year 9; type as in *Brit. Mus. Cat.*, No. 1166.

The PHILOLOGICAL SECRETARY contributed the following obituary notice of the death of Dr. George Bühler, an Honorary Member of the Society.

Dr. George Bühler, an Honorary Member of the Society, whose death has been reported at the last meeting, was born on the 19th June, 1837 in Borstel, a small country-place in Hannover. He studied in Göttingen under Benfey Sanskrit and Comparative Philology, and took his degree of Ph. D. in 1858. He then went first to Paris and later on to England where he was employed for some time as an assistant in the Queen's private Library in Windsor. In 1863, he was appointed Professor of Oriental Languages in the Elphinstone College in Bombay, in 1866 Superintendent of Sanskrit Studies in the Deccan College in Poona, and later on Educational Inspector in Gujarat. In 1880, when he resigned his Indian Service, the University of Vienna selected him for the newly created professorship of Sanskrit; he was made an

Ordinary Member of the Imperial Academy of Science in Vienna, and given the title of Hofrath. He was elected an Honorary Member of our Society in 1895.

His death occurred on the 8th April by a very deplorable accident. He had started on a journey to Zürich to spend the Easter holidays with his wife and son who were then living at that place. On his journey he halted for a few days in Lindau, where he hired a small boat, a so-called "nutshell," in which he went out alone to enjoy a moon light night on the beautiful Lake of Constanze. But the waters of that dangerous sea that had craved so many a victim before, proved dangerous to him also. On the next day, the boat was seen driving on the sea without its inmate, whose body still lies buried under the depth of the water. It was not till much later that his family, who were looking out anxiously for his arrival, came to know of that sad occurrence, which had bereaved them of a beloved husband and father, and his friends of one who was dear to them not only as a scholar who stood foremost of all in Oriental learning, but also as a man of a truly noble mind and great character.

In an obituary note published in a German paper, the late Professor has been rightly called the centre of all those learned investigations that are at present directed towards elucidating the ancient history and literature of India. There is hardly any one among the living Sanskritists of Europe and America as well, as of India to whom the late Professor was not known either by literary correspondence, or personally, and scarcely any one has addressed him on any question connected with this wide field of learning, who did not receive from him an answer that not only improved upon his own knowledge of the subject, but very often helped him essentially in seeing his way through some difficult point in connection with his researches. In India itself, it is especially the Bombay Presidency where the fruits of his labours planted during the 18 years he served this country, are still ripening. Witness to this is not only that excellent series of Sanskrit Text publications, the Bombay Sanskrit Series, which was begun and carried on under his own superintendence, in connection with his colleague, Prof. Kielhorn, not only the work done in that Presidency as well as in adjacent parts of India in connection with the search for Sanskrit Manuscripts which was started by him also in connection with Prof. Kielhorn, nay it may be fairly said that a good deal of the increasing interest among Native scholars of that part of the country for their ancient Literature and History is due to his direct personal influence.

His literary work was connected firstly with the ancient Law-books

of India a subject on which he was one of the first authorities. For Sir R. West's Digest of Hindu Law he wrote the Introduction dealing with the history of Smṛti. Of the ancient Law-books written in prose, which preceded the later standard codifications of Manu and Yājñavalkya, the Dharma-śāstra of Āpastamba was first made known by him; this and the corresponding Law-books of Gantama, Baudhāyana and Vasiṣṭha were translated by him, and his translation of Manu, published in the same series, the Sacred Books of the East, is a work of far more than literary merits to Indian Lawyers.

Here as in all his other publications he showed that admirable combination of a thoroughly philological knowledge of the subject with a practical knowledge of modern India and its people, that gave him such a great advantage over many of his European colleagues who have only to resort to their books, and never come in connection with the country and its inhabitants.

The next subject taken up by him, was the history and literature of the Jainas. Dr. Hoernle in his Presidential Address has newly given us an admirable survey of the work done in this long neglected branch of Indian Antiquities, and he has already pointed to the large amount of advancement in knowledge in this field of research which we owe to the late Professor. His work here is partly connected with the decipherment of the ancient Jaina Inscriptions from Mathurā, and this brings me to that particular branch of investigation where, as has been observed, Prof. Bühler has done more than any other living Sanskritist of his time. I refer to Inscriptions and History. It will be known to most of us, that Prof. Bühler's readings of the Aśoka Inscriptions are far superior to any previous endeavours to read and translate those curious ancient documents. He was the first to adhere strictly to the principle that the texts should be explained as they stand, without allowing any arbitrary alterations of modern critics, and scarcely any other scholar commanded over such a wide knowledge of the ancient literature of Hindus, Jainas or Bauddhas as he did, or knew to utilize even out of the way scraps of information so masterly as he. As a result of all his investigations in the wide field of Indian Inscriptions he published lately his Indian Palaeography, that admirable survey of the history of writing in India that makes it now so easy even to outsiders to gain an oversight over the result of various learned researches dispersed hitherto in different often hardly accessible Periodicals.

This work together with Prof. Jolly's book on Indian Law and Custom, were the first specimens to appear of the famous Encyclopædia of Indo-Aryan Research which Trübner started under the superintendence of the late Professor. He himself was going to publish in the

same series an Indian History, a treatise on the Geography of India (in connection with Dr. Stein), an introductory work on literary and epigraphical sources of Indian History, and in connection with Sir R. West, and Prof. Jolly a work on Political Antiquities of India. And if the sudden death of the late Professor seems so extremely sad and deplorable, it is partly because we now cannot expect to get these books from his pen, that touched nothing which it did not adorn. If any one, it was he who by his previous researches as well as by his high literary capacities was entitled to write the History of India. The work will probably have to be entrusted to some other scholar. There seems but little hope that his Manuscript might be so far advanced as to be ready for publication, but the Encyclopædia, it is hoped, will be continued.

But even now, though we are to deplore the loss of such a book which would do so much help to everyone who works on this subject, the work done by the late Professor has advanced our knowledge of Indian Literature and History to such a degree, that it is scarcely said too much, if I contend that in many respects Sanskrit in Europe and India, would not stand where it now stands, if it had not been for the labours of the late Professor Bühler.

The following paper was read :—

The Personal History of Dr. William Hamilton.—By C. R. WILSON, M.A.

The paper will be published in the *Journal*, Part I.

LIBRARY.

The following additions have been made to the Library since the meeting held in May last.

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PROCEEDINGS
OF THE
ASIATIC SOCIETY OF BENGAL,
FOR JULY, 1898.

The Monthly General Meeting of the Asiatic Society of Bengal, was held on Wednesday, the 6th July, 1898, at 9-15 P.M.

R. D. OLDHAM, Esq., A.R.S.M., F.G.S., in the chair.

The following members were present :—

Dr. A. Alcock, J. Bathgate, Esq., Dr. T. Bloch, W. K. Dods, Esq., F. Finn, Esq., D. Hooper, Esq., W. A. Lee, Esq., L. de Nicéville, Esq., A. T. Pringle, Esq., M. J. Seth, Esq., Mahamahopadhyaya Haraprasad Shastri.

Visitors :—G. A. T. Bennett, Esq., Dr. C. R. M. Green, J. A. Kinnison, Esq., J. Wyness, Esq.

The minutes of the last meeting were read and confirmed.

Thirty presentations were announced.

Mr. James Wyness was ballotted for and elected an Ordinary Member.

Surgeon-Major D. W. S. Bain, I.M.S., Civil Surgeon, Merkara, Coorg, proposed by T. H. Holland, Esq., seconded by Surgeon-Major A. Alcock; Babu Sitaram, M.A., Deputy Magistrate, Cawnpur, N.-W. P., proposed by Mahamahopadhyaya Haraprasad Shastri, seconded by Dr. P. K. Ray; and, Surgeon-Captain C. R. M. Green, F.R.C.S., I.M.S., proposed by Surgeon-Major A. Alcock, seconded by Surgeon-Captain A. R. S. Anderson, are candidates for election at the next meeting.

The Rt. Revd. The Lord Bishop of Calcutta has expressed a wish to withdraw from the Society.

The PHILOLOGICAL SECRETARY exhibited an Assamese drum or "doba" forwarded by F. J. Needham, Esq.

The drum has been presented to the Society by F. J. Needham, Esq., Sadiya, Assam, who states that it has been in the possession of a Khamti chief for the last 12 years or more. It is a big kettle-drum, made of brass, shaped like a boiler, and measuring 4' in breadth and 3' 6" in height. A Sanskrit inscription in modern Bengali characters, engraved on its surface, records that the drum was made in the Çaka year 1652 (expressed in words: *nayana* (2), *bhāṣa* (5), *rasa* (6), *indu* (1), and in figures) by the king, the illustrious *Çivasimha*, together with his wife, Queen *Pramathēçvari*, and that it weighs 620½ seers.

The Inscription reads thus :—

নূপঃ ক্রীশি	বসিংহঃক্রী	বৃহদ্রাটপ্রম	ধেশ্বরী ।
দম্পতী তার	নুরুতা	যেতংপিতল	দুশুভিং ॥ ¹
নয়নবাণ	রসেন্দু	শাকৈ ॥	১৬৬২
পিতল	জো	খাত ৬২০॥	সের

Translation: "The King *Çri-Çivasimha*, and the Queen *Pramathēçvari*, these two, husband and wife, made this brass drum. The Çaka year 1652 (=1730 A.D.). Made of brass (weighing) 620½ Sērs."

The following papers were read :—

1. *Buddha worshipped by Indra: a favorite subject of Ancient Indian Art (with exhibition of photographs).*—By DR. THEODOR BLOCH, PH.D.

The first photograph which I have the honour to show you, is taken from a fine piece of sculpture, measuring 3' 10" x 2' 8", excavated from the ruins of a Buddhist Stūpa in the Swat Valley, and deposited now in the Indian Museum.² It shows a figure of Buddha, seated inside of a cave on what is intended for the *vajrāsana* or diamond throne, in the attitude of meditating. His head is surrounded by the usual nimbus, while flames burst out from the cave, indicative of the *bhāṣmaṇḍala* or halo which, according to the *Nidānakathā*, "resplendent with many colours, proceeded to a fathom's length all round his person."³ The cave evidently lies in a mountain, covered with jungle. This is indicated by the trees on top of the sculpture, as well as by the animals inhabiting the scene. A host of *dēvas* or angels stand on both sides of

¹ These two lines form a *Çloka*.

² I regret that it is impossible at present to publish this photograph.

³ Rhys Davids, *Buddhist Birth Stories*, Vol. i, p. 125; *Jātaka*, ed. Fausbøll, Vol. i, p. 89: *nānāvīrūgasamujjalāya sarirappabhāya ... vyāmappabhāparikkhēpasamupabāḥhāya*. The halo is frequently mentioned in the *Nidānakathā*.

the cave, along the slope of the mountain; some have their hands folded in the attitude of worshipping, others throw down flowers indicative of the *puṣpavarṣi* or rain of flowers, which, according to Buddhist legend, used to fall down wherever the Blessed One sat or walked. The principal figure among them is the one standing at the bottom of the sculpture next to the cave. His high rank can be easily recognised by the fact that he enjoys the benefit of having an umbrella worn over him, which, in ancient Indian Art, is always the sign of a royal person. A second figure stands parallel to the king as we may call him at present on the other side of the cave; head and upper portion of body is gone, but from what remains, it is evident that he was represented as playing a musical instrument, apparently a harp.

Whom are the two figures, the king and the harp-player, intended for? There can be no doubt that the scene is identical with a relief of the Bharhut Stupa (figured in Plate XXVIII of Cunningham's *Stūpa of Bharhut*), which is labelled by an ancient inscription as *Idasālaguha*, or 'the Indrasāla Cave.' The story to which this refers, is told by the Chinese pilgrims Fa-Hian and Hsien Tsang, and also by Spence Hardy according to some Ceylonese author.¹ The gist of the story is that Indra once showed an eager desire to pay his reverence to Buddha, and taking with himself his musician Pañcaçikha, went to the Indrasāla or Indrasāla mountain where Buddha was seated meditating in a lonely cave. Pañcaçikha sung a number of stanzas in praise of Buddha, which he accompanied on his harp, and hereafter Indra proposed forty-two questions to Buddha, writing each one of them singly with his finger upon a stone.²

In the Bharhut relievo, the harp-player stands outside the cave; Indra is seated inside, surrounded by his attendants, his face turned towards a throne which is surmounted by an umbrella, the usual sign in the Bharhut sculptures to indicate the presence of Buddha, he himself being never represented here. A few animals and a tree are seen above the cave.

The same scene is also found in Sanchi and Gaya. The latter (Plate VIII, fig. 7 in Cunningham's *Mahābōdhi*) is very poor, only one person, apparently the harp-player, standing outside the cave; no sign

¹ *Travels of Fa-hian*, translated by Beal, Chapter xxviii, p. 110; St. Julien's *Hsien Tsang*, Vol. ii, p. 59; Hardy, *Manual*, p. 298; see also Cunningham, *Stupa of Bharhut*, p. 88.

² I need not mention here that Cunningham has tried to identify the Indrasālaguhā with a locality in the neighbourhood of Giriyāk. It is near this place that a long inscription in "shell characters" is found. Now if Fa-Hian tells us, that "the traces of these questions yet exist," are we to assume that those so-called 'shell characters' already existed in his time?

of Buddha, as indeed might be expected, and not even of Indra, being found in the medallion. Sanchi has got a much better relievo of the same scene. It is shown in Fig. 1 on Plate XXIX of Fergusson's *Tree and Serpent worship*, and occupies one of the compartments in the left post of the northern gateway of the big Stūpa. Here the cave is evidently sculptured according to well-known models in the Barabar Hills or similar caves, some of which are still in existence. Indra with his attendants form a group of two rows of figures (five in each) in the lower half of the relievo. Indra I take to be the figure in the centre of the upper-most row, turning his head towards the cave; Pañcaṅkha stands at the right end of the same row. Buddha's throne is shown as if standing outside the cave; this is merely due to want of skill on part of the sculptor.

The last three sculptures, viz., Bharhut, Gaya, and Sanchi, are scarcely younger than 150 B.C. The date of the Swat sculpture is probably not before 150 A.D. To the same date also belongs a sculpture from Mathurā, now in the Indian Museum, which is figured on Plate 60, fig. 1 of Burgess. The ancient *Monuments, Temples and Sculptures of India* (London 1897, W. Griggs, Part I). It agrees with the Swat sculpture (1) in showing Buddha in person seated in the cave; (2) in placing Indra and Pañcaṅkha each on one side of the cave; but it differs in representing a huge elephant, Indra's vehicle, standing behind Indra's attendant, and taking up with his trunk some flowers, apparently intended as *arghya* for Buddha. Among the Gandhara sculptures, finally, the same scene occurs very often; the Indian Museum has got no less than six duplicates; a further one is in Lahore, of which the Indian Museum has got a cast and a photograph.¹ In later Buddhist Art, I do not remember to have met with this scene; but perhaps it may be found among the wall paintings of Ajanta.

My object in putting together all these various sculptures is not merely to deduct from this comparative study the well-known and often repeated, but hitherto unexplained fact that figures of Buddha occur first after Indian Art in touch with Greek or Roman sculptures. It is also not my intention to dwell here at length on another not uninteresting conclusion which we might draw from a comparison of these various sculptures. I am alluding to the advanced skill of artistic composition which is evident, I believe, if we put together the Bharhut and the Swat sculpture, and which we may safely pronounce as due to Greek or Western influence. It is just the

¹ It forms the upper-most compartment of a slab greater in length than in breadth, and divided into five horizontal compartments. The technical name of such a slab was *ūrdhvapaṭṭa* as we learn from the Amrāvati Inscriptions.

opposite lesson which this comparative study teaches us: the artists of Gandhara took over the Indrasālagṇhā scene from purely Indian Art, and though they apparently re-modelled it according to their own higher standard of artistic taste, yet they remained true to their Indian models even so far as to copy minor details from them, as for instance, the curious animals and rather conventional trees which we noticed in the Swat sculpture. Hitherto, Archæologists, in dealing with Gandhara Art, have been in the habit of searching very eagerly for the Greek or Roman prototypes of the various sculptures that are found in the North-West of India. I am afraid they have often run the risk of overlooking the Indian character of this Art. So, to give one example out of many. In Gandhara we often meet with a scene where a serpent-king with some of his daughters is represented in the act of worshipping Buddha. Those Nāgas or Nāginis are always figured as human beings with a huge cobra coming out over their head. This is decidedly Indian, and I doubt if a Greek or Roman sculptor to whom a similar task is set, would have ever chosen this way. But there is another still more important point. Snakes, according to Indian superstition, inhabit tanks and ponds of water. Consequently in all those Nāga-sculptures they are represented with only the upper portion of their body coming out from the water. This latter point has always been declared a true mark of Greek influence. But it is not so. For in Bharhut already, we meet with the same artistic trick, if I may call it so, in the relievo, labelled as *Ērapatō Nāgarājā Bhagavatō vadatē*, i.e., the serpent-king *Ērapatō* worships the Blessed One (i.e., Buddha),¹ and here, of course, the idea of Greek influence is quite out of place.

This is only one instance of what might almost form a lengthy paper on the connection of Gandhara Art with ancient Indian Art. To discuss this point in full, is not my intention now; I merely want to say that if I be right, those sculptures from Gandhara which show a more Indian character, must be considered as more primitive and consequently older than the higher developed Grecian sculptures.

2.⁴ *Note on a specimen of the rare Scincoid Lizard Eumeces blythianus*, (Anderson) from the Afridi Country; with exhibition of the type specimen.—By F. FINN, B.A., F.Z.S., Deputy Superintendent of the Indian Museum.

While with the British forces during the recent military operations against the Afridis, Dr. C. R. M. Green made a small collection of Reptiles in the Afridi country, which he has generously made over to the Museum.

¹ Plate XVI in Cunningham's Stūpa of Bharhut.

Among these is a specimen of the very rare Skink *Eumeces blythianus* described by Dr. J. Anderson in our *Proceedings* for 1871 (p. 186) as *Mabowia Blythiana*. The type is still in the Museum collection, and is in good condition, except that the colours are very much faded. It is still, however, possible to make out that the markings correspond to Dr. Anderson's description, with which description, as also with the type itself, Dr. Green's specimen closely agrees, though it is younger and smaller; the structural details of scaling, &c., corresponding. In the coloration it is noticeable that in Dr. Green's specimen some red spots are present, not mentioned in the description of Dr. Anderson's type.

The locality of this type was doubtful when the species was described, it having been purchased from a Bokhara merchant who stated that he obtained it at Amritsar. No fresh specimen had been obtained when Mr. Boulenger published his volume on *Reptilia* and *Batrachia* in the "Fauna of British India" series in 1890, and that gentleman there suggests that the species may not be Indian.

Dr. Green, therefore, has the credit of giving this rare species, if not a name, at least a "local habitation."

His specimen has been sent to the British Museum, and I herewith exhibit the type, which has been re-coloured according to the markings displayed by this fresher specimen.

I have to acknowledge my obligations to Dr. Alcock, who entrusted the specimen to me for identification, for the opportunity of re-introducing this obscure species to naturalists.

3. *The Lepcha or Rong Language as illustrated in its Songs.*—By L. A. WADDELL, LL.D.

The paper will be published in the *Journal*, Part III.

4. *Note on a Dialect of Gujarātī discovered in the District of Midnapur.*—By GEORGE A. GRIERSON, C.I.E., PH.D., I.C.S.

The paper will be published in the *Journal*, Part I.

5. *On Coincidences between some Bengali nursery stories and South Indian Folk-tales.*—By ČARAT CANDRA MITRA, M.A., B.L., Corresponding Member of the Anthropological Society of Bombay. Communicated by the Anthropological Secretary.

The paper will be published in the *Journal*, Part III.

6. *India in Lakṣmaṇa Sena's time from a rare manuscript written at his Court.*—By MAHĀMAHOPĀDHYĀYA HARAPRASĀDA ČĀSTRĪ, M.A.

The third verse in all published editions of Jayadeva's *Gitagovinda* mentions five great poets all of whom flourished during the continu-

ance in power of the Sena family of Bengal kings. The verse runs as follows :—

वाचः पञ्चवयस्यमापतिधरः सन्दर्भशुद्धिं गिराम्
जानीते जयदेव एव शरणाः स्नाय्यो दुःखहन्ते ।
शृङ्गारोत्तरसत्त्वमेयरचनेराचार्य गोवर्द्धन-
स्यङ्गी कोऽपि न विमुक्तः श्रुतिधरो धोयो कविश्यापतिः ॥

Of these Umāpatidhara is the writer of the Deopādā inscription ; Jayadeva is the well-known author of the exquisite lyric Gitagovinda ; and Gobardhanācāryya is the author of the Aryyā Saptāṣṭi. We know very little of शरणा and धोयो. We also know of no work by Gobardhana which comes to the description given above, i.e., on a love-subject.

Paṇḍit Raghurāma Tarkaratna of Viṣṇupura in Bāṅkudā had a copy of a work by धोयो entitled पञ्चवयस्य. It has been noticed in the Second Series of the Notices of Sanskrit Manuscripts, Vol. I, Part II. On my application Paṇḍit Raghurāma sent the MS. to me and I copied it for my own use. It is written in imitation of Kālidāsa's inimitable work the Meghadūta. It begins with a description of an imaginary golden city at the top of the Sandalwood Mountain, Candanādri, in the extreme south of India. There in that city dwelt a damsel belonging to the race of the celestial musicians, the Gandharvas. Her name was Kuvalayavatī. Lakṣmaṇa Sena, in his conquest of the world came to the South. She saw him, and, unknown to him, she fell in love.

तस्मिन्नेका कुवलयवती नाम गन्धर्वकन्या
मन्ये जैत्रं कुसुमशरतोऽप्यायुधं वा स्मरस्य ।
दृष्ट्वा देवं सुवनविभजे लक्ष्मणं क्षीणियालं
वाजा सद्यः कुसुमधनुषः संविधेयोवभूव ॥

Maddened in the advent of the spring and finding the South wind blowing to the North, she resolved upon making the wind her messenger. As in the Meghadūta, the road is described. A few miles from the Candanādri is the Pāṇḍyadeṣa with its capital Uraga on the Tāmraparṇi abounding in betel-nut trees. Uraga is mentioned by Kālidāsa also, as the capital of the Pandyadeṣa in the sixth canto of his Raghuvamśa ; though modern Archæologists think that Uraiūr was the capital of the Chola ; while Madura was the capital of the Pandya country. Mallināth thinks that Uragapura was Nāgapura or Nāgapattana. In the MS. itself there is a note to the effect that Uraga is Nāgapura.

From Nāgapura the messenger goes to Setuvandha which is close by and which is used by the citizens as a resort of pleasure. The Bridge is compared to an arm of the earth sent towards the island of Lankā. The poet advises the messenger to pay his homage to the phallic emblem of Ṣiva stationed there entitled Rāmeṣvara.

Thence he should proceed to Kānci the Queen of Southern India. It is said to be on a small rivulet named Suvata. From Kānci the Messenger is advised to go to Kāverī where the Keralis play their pranks. The water rises up to the waist and no more. Blowing to the North the South wind comes to the Mountain Mālyavān, the scene of Rāma's lamentations. This is perhaps in the Nellur district. Thence to the sheet of water known as Pancāpsara mentioned in Raghuvāṇa and identified by Mr. Beglar in vol. XIII of Sir A. Cunningham's Report with a dried up lake near Biṣṛāmapura the residence of the Raja of Sirguja. Blowing northward the wind comes to the Andhra country with its noble river the Godāvari; passing which is the Kalinga Nagara on the seashore. To the north of this is the Vindhya Range with its beautiful woodlands through the Bamboo groves of which flow the Revā. To the north of this is the Yayātinagara or Jājapura where the Kerala women enjoy the sports of love. Kerala is the name of the Mālābār coast and Western Maisur. One may be surprised to hear of the Kerala women in the capital of Orissa. But it was about the time of Lakṣmaṇa Sena that the Kongas from Kerala conquered Uḍiṣyā and founded what is known as the Gangavaṇa.

From the capital of Utkala the invisible Messenger blows to the country known as Suhma, or what is now known as the Western Bengal. There in that country was a temple of Raghukulagaru, apparently Ṣiva with half his person occupied by Parvatī, on the Ganges, that is, the Bhāgirathi. Between the temple and the river is the embankment thrown by Bāllala Sena. To the north of this, is the holy country in which Yamunā separates herself from the Ganges. This is Triveni about 30 miles north of Calcutta. To the north of this is the capital of Bengal on the Ganges. Its name is *Vijoyapura* and there is a victorious camp.

The females of Bengal at this time were fond of ornaments made of palm-leaves and they were also fond of swinging machines.

7. *Bengali and Behari-Folk-lore about Birds.*—By ṢARAT CANDRA MITRA, M.A., B.L., Corresponding Member of the Anthropological Society of Bombay. Communicated by the Anthropological Secretary.

The paper will be published in the *Journal*, Part III.



PROCEEDINGS
OF THE
ASIATIC SOCIETY OF BENGAL,
FOR AUGUST, 1898.

The Monthly General Meeting of the Asiatic Society of Bengal, was held on Wednesday, the 3rd August, 1898, at 9-15 P.M.

THE HON. MR. H. H. RISLEY, C.I.E., B.A., I.C.S.,
President, in the chair.

Seventeen members and five visitors were present.

The minutes of the last meeting were read and confirmed.

Sixty-one presentations were announced.

Surgeon-Major D. W. S. Bain, I.M.S.; Babu Sitaram, M.A., and Surgeon-Captain C. R. M. Green, F.R.C.S., I.M.S., were ballotted for and elected Ordinary Members.

The SECRETARY reported the death of Mr. U. C. Batabyal, I.C.S.

The PRESIDENT exhibited Photographs of Coorgs and Yeruvas taken by Mr. T. H. Holland.

The PHILOLOGICAL SECRETARY read the following letters from Dr. A. F. R. Hoernle, C.I.E., Vice-President, A. S. B., and Babu M. M. Chakravarti, Deputy Magistrate, Gaya :

Simla, 15th July, 1898.

DEAR DR. BLOCH,

I send you a letter from Babu M. M. Chakravarti, which appears to me deserving of publication in the Proceedings of the Society. So very little is known regarding this particular class of coins that any suggestions coming from the Babu who has made Orissa his special ~~study~~, are valuable and will be welcome to Numismatists generally.

St. J. D.

Being in Simla, away from all reference books, I cannot enter fully into the Babu's queries; but it appears to me very likely that both his suggestions may be correct, that some of the coins should rather be ascribed to Ananga Bhīma, and that the numeral figures should be read as he proposes to read them.

Gaya, 10th July, 1898.

MY DEAR SIR,

Your interesting notes on the Ganga coins received from Angul, I have only lately come across. May I suggest the following points for your consideration and remarks?

All the coins are ascribed to one king, Anantavarman *alias* Cōḍa-ganga. May I ask why they should be presumed to belong to only one king? Three coins bear letter-groups indicating a name. No. 29 has been correctly read as "*Çri-ga(m*)-ga*;" No. 22, seems to bear the letters "*Çri-ana...*;" No. 18 has letters hardly legible, such as *Çri*??, but possibly they are *Çri-ana....* The letters "*Çri-ana*," might be the initial letters of Anantavarman, Ananga Bhīma, or Aniyaṅka Bhīma. Of these, Anantavarman is not probable, because it is merely a title common to the early Ganga kings and on such small coins only the names of the kings would have been stamped. I find Dr. Hultzsch has taken Cōḍaganga to be a surname, but it is the real name, while Anantavarman is the surname. Then again Aniyaṅka Bhīma appears to be only a variant of the name Ananga Bhīma; and the only king named Aniyaṅka has also been called Ananga. Would it not be therefore better to infer that No. 22 (and possibly No. 18), are coins of Ananga Bhīma Dēva? Some of the other coins might also belong to any other early Ganga king, other than Cōḍaganga.

May I ask how the date has been arrived at? The earliest figures used in Orissa (and probably in Kalinga) will be found in the copper plates printed in J. A. S. B., 1896, Plates VIII to XVIII (left hand side near the holes). From the figures there given and from others which I recollect, the figures 3 and 9 of the coins as now read would seem to be 2 and 5. Hence the following would appear to be the correct reading:—

- in No. 17, 22 for 33.
- „ No. 18, 12 for 13.
- „ No. 19, 2 for 3.
- „ No. 21, 5 for 9.
- „ No. 22, 24 for 34.
- „ No. 23, 24 for 34.
- „ No. 27, 15 for 19.
- „ No. 28, 22 for 33.

Similarly I would correct Dr. Hultzsach's readings in Nos. 24, 25 and 30 to 24, 27, and 2 for 34, 37, and 3. His No. 33 is not legible in the autotype.

The coins have been named as "Hoonas." Hūṇa is a general word in Orissa and Ganjam for small old coins. Correctly they would be "fanams," 1/10th of "Māṛhas." The existence of these coins I deduced from the Mādalā Pañji and others, in my article on Troy Weights of Orissa (J. A. S. B., 1892, pp. 44-5). Since then the Māṛhas have been found mentioned in copper-plate inscriptions of the king Nṛsiṃha Dēva IV. (J. A. S. B., 1895, pp. 150 and 153), and in many inscriptions in the Āṇḍī Kūṛmaṇ temple, Chicacole, transcripts of most of which I secured 5 or 6 years back. Nos. 24 and 25 of Dr. Hultzsach's list I would identify as Māṛhas.

The coins show that in the times of Rājārāja and Cōḍaganga many of the letters and figures had approached modern Oṛiyā types. Hence they appear to me very interesting.

The following papers were read :—

1. *The Cāṭṭṣvara Inscription of Anagga bhīma II. of Orissa.*—By NAGENDRA NATH VASU.

The paper will be published in the *Journal*, Part I.

2. *On a small collection of Butterflies from Buru in the Moluccas.*—By LIONEL DE NICÉVILLE, F.E.S., C.M.Z.S.

The paper will be published in the *Journal*, Part II.

3. *Scraps of Hindu Folk-lore, No. II.*—By PANDIT RAMGHARIB CHOUBE. *Communicated by the Anthropological Secretary.*

The paper will be published in the *Journal*, Part III.

4. *Kāṣmīrī Suffixes.*—By GEORGE A. GRIERSON, C.I.E., PH.D., I.C.S.

5. *The date of the temple of Jagannāth in Puri.*—By M. M. CHAKRAVARTI.

The papers will be published in the *Journal*, Part I.



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PROCEEDINGS
OF THE
ASIATIC SOCIETY OF BENGAL,
FOR NOVEMBER, 1898.

The Monthly General Meeting of the Asiatic Society of Bengal, was held on Wednesday, the 2nd November, 1898, at 9 P.M.

DAVID HOOPER, Esq., F.C.S., F.I.C., F.L.S., in the chair.

The following members were present :—

Mr. J. Bathgate, Dr. T. Bloch, Mr. W. K. Dods, Mr. F. Finn, Captain W. Haig, Mr. W. A. Lee, Mr. C. Little, Kumar Rameshwar Maliah, Mr. M. J. Seth, Mr. J. Wyness.

Visitors:—Mr. J. K. Coulthard, Mr. H. E. Kempthorne, Mr. C. B. Pigot, Mr. W. F. Reynolds.

The minutes of the last meeting were read and confirmed.

Eighty-nine presentations were announced.

Captain W. A. Cuppage, S.C.; The Revd. Herbert Octavius Moore, M.A.; The Revd. Walter K. Firminger, M.A., F.R.G.S.; and Mr. Ernst _____

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They were procured by me at Maibong, in the N. Cachar Hills.

ERRATUM SLIP FOR PROCEEDINGS,

No. IX, NOVEMBER 1898.

**Page 197, line 21. The name of Mr. Kishori Mohun Chatterjea
is as now printed.**

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The minutes of the last meeting were read and confirmed.

Eighty-nine presentations were announced.

Captain W. A. Cuppage, S.C.; The Revd. Herbert Octavius Moore, M.A.; The Revd. Walter K. Firminger, M.A., F.R.G.S.; and Mr. Ernst Cable, were elected Ordinary Members of the Society during the recess in accordance with Rule 7.

Mr. Edward Thornton, A.R.I.B.A.; The Revd. Thomas Bailey, B.D., M.A.; Babu Akshayakumar Maitra, B.A., B.L.; Mr. Kamini Mohan Chatterjee; and Mr. Robert Greenhill Black, were ballotted for and elected Ordinary Members.

The PHILOLOGICAL SECRETARY exhibited some stamped bricks from Assam, presented by Mr. Robert Greenhill Black, and read the following extract from Mr. Black's letter forwarding the donation:—

“They were procured by me at Maibong, in the N. Cachar Hills.

Maibong, now an executive station of the Assam Bengal Railway, was formerly the site of an old Kachari settlement. The race halted there before descending to the plains now known as Cachar. Settled in the plains, one Tuleram Senaputti was sent by the Raja back to Maibong in the capacity of governor. Revolting he attempted to set up a kingdom for himself. The clearing of land for the railway has brought to light many evidences of a bygone civilisation far superior to that surrounding the present degenerate descendants of the race. It is safe to assume that on a further clearance of jungle more would be found. Stamped bricks and idols carved in stone lie scattered about but the most prominent record is a temple carved in rock lying in the river bed. Beyond this last I doubt if much will be allowed to remain. It was with difficulty I procured my bricks which are not nearly so good specimens as others I have seen, the property of earlier visitors to the place. As for the idols—they being of some weight—heads and other parts have been broken off and carried away. It would appear to have been no one's business to interfere with this vandalism.

I should be glad to learn more as to this settlement. Perhaps some of your members can throw light on it. Beyond the facts in the statistical account I have seen nothing relating to it."

The PHILOLOGICAL SECRETARY exhibited the ancient Buddhist Relics, excavated by Mr. Claxton Peppé from the Piprahwa Mound, District Basti, N.-W. Provinces.

The following papers were read :—

1. *The Memoirs of Bāyazīd Biyāt.*—By H. BEVERIDGE, I.C.S., (retired).

The paper will be published in the *Journal*, Part I.

2. *On the Kurmīs of Bihār, Chutiā Nāgpur, and Orissa.*—By G. A. GRIERSON, C.I.E., I.C.S., PH.D.

3. *Note on Hārī-Āllāh sect.*—By MAULVIE ABDUL WALI.

The papers will be published in the *Journal*, Part III.

4. *Two further Copper-plate Inscriptions of Nṛsiṃha-dēva II. of Orissa.*—By NAGENDRANATH VASU.

The paper will be published in the *Journal*, Part I.


5. *Note on Chitliyā-Faqīrs.*—By MAULVIE ABDUL WALI.

The paper will be published in the *Journal*, Part III.

The paper entitled :—*Note on some tribal and family names employed in speaking of the inhabitants of the Lushai Hills.*—By MAJOR JOHN SHAKESPEAR, C.I.E., D.S.O., I.S.C., Superintendent of the Lushai Hills. Communicated by DR. G. A. GRIERSON, C.I.E., I.C.S., was postponed.

Mr. C. Little gave notice that he wished to bring forward the following motion at the next meeting of the Society in accordance with Rule 55, Clause (d) of the Society's Rules:—

“That the reading and printing of communicated papers be discouraged as far as possible and that such papers be accepted only in case they are of exceptional interest.”



PROCEEDINGS
OF THE
ASIATIC SOCIETY OF BENGAL,
FOR DECEMBER, 1898.

The Monthly General Meeting of the Asiatic Society of Bengal was held on Wednesday, the 7th December, 1898, at 9 P.M.

L. DE NICÉVILLE, Esq., F.E.S., C.M.Z.S., in the Chair.

The following members were present:—

Major A. Alcock, I.M.S., Mr. J. Bathgate, Dr. T. Bloch, Mr. W. K. Dods, Mr. J. N. Das-Gupta, Mr. F. Finn, Major C. R. M. Green, I.M.S., Captain W. Haig, Mr. H. H. Hayden, Col. T. H. Hendley, C.I.E., I.M.S., The Revd. H. B. Hyde, Mr. C. Little, Major D. Prain, I.M.S., Dr. P. C. Roy, Mr. M. J. Seth, Pandit Haraprasad Shastri, Mr. E. Thornton, Major L. A. Waddell, I.M.S., The Revd. J. Watt, Mr. C. R. Wilson.

Visitors:—Major S. Burrard, Dr. F. G. Clemow, Captain A. H. McMahon, C.S.I., C.I.E., Mr. C. B. Pigot.

The minutes of the last meeting were read and confirmed.

Forty presentations were announced.

Babu Nrisingha Chandra Mukerjee and Mr. T. M. Munro expressed a wish to withdraw from the Society.

The Secretary reported the death of Mr. C. J. Rodgers, an Associate Member of the Society.

Mr. C. Little brought forward the following motion of which he had given notice at the last General Meeting.

“That the reading and printing of communicated papers be dis-

couraged as far as possible and that such papers be accepted only in case they are of exceptional interest."

The motion was seconded by Captain W. Haig.

Major D. Prain, I.M.S., proposed as an amendment:—

"That the reading of communicated papers be encouraged as far as possible and that such papers be accepted, as heretofore, only in case they are of exceptional interest."

The amendment was seconded by Mr. J. Bathgate and carried by fourteen votes against five.

The following papers were read:—

1. *Note on some tribal and family names employed in speaking of the inhabitants of the Lushai Hills.*—By MAJOR JOHN SHAKESPEAR, C.I.E., D.S.O., I.S.C., *Superintendent of the Lushai Hills. Communicated by* DR. G. A. GRIERSON, C.I.E., I.C.S. (Postponed from the last meeting).

2. *Some Khond Songs.*—By J. E. FRIEND-PEREIRA. *Communicated by the ANTHROPOLOGICAL SECRETARY.*

3. *Bengali and Behari Folklore about Birds, Part II.* By ÇARAT CANDRA MITRA. *Communicated by the ANTHROPOLOGICAL SECRETARY.*

The papers will be published in the Journal, Part III.

Mr. C. R. Wilson proposed:—

"That the paper No. 3 on the list, 'Bengali and Behari Folklore about Birds, Part II, by Çarat Candra Mitra,' be not printed and published by the Society."

The proposal was seconded by Captain Haig.

Major Alcock, I.M.S., proposed as an amendment:—

"That the question be left to the discretion of the Anthropological Secretary in accordance with the rules and customs of the Society as they at present stand."

Major Prain seconded the amendment which was carried by eleven votes against five.

The paper entitled:—

The story of Hazuri. By Dayaram Gidumal, Judge, Shikarpur, Sindh. *Communicated by the ANTHROPOLOGICAL SECRETARY, was postponed.*

LIBRARY.

The following additions have been made to the Library since the meeting held in June 1898:—

TRANSACTIONS, PROCEEDINGS AND JOURNALS,

presented by the respective Societies and Editors.

- Adelaide.** Roy. Geogr. Soc., Proc., Vol. II; Presidential Address, 1898; Elder Scient. Explor. Exped., 1891-92., Journ. and Maps; and Hand-book; Horn Scient. Explor. Exped., 1894., Journ. and Maps; Roy. Soc., Trans., Vol. XVI, Parts 1-3.
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LIST OF MEMBERS
OF THE
ASIATIC SOCIETY OF BENGAL.
ON THE 31ST DECEMBER, 1897.

LIST OF OFFICERS AND MEMBERS OF COUNCIL
OF THE ASIATIC SOCIETY OF BENGAL
FOR THE YEAR 1897.

President :

Dr. A. F. R. Hoernle.

Vice-Presidents :

Colonel J. Waterhouse, B.S.C.

A. Pedler, Esq., F.R.S.

The Most Revd. Archb. P. Goethals, D.D., S.J.

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L. de Nicéville, Esq., F.E.S., C.M.Z.S.

C. R. Wilson, Esq., M.A.

Pandit Haraprasād Shāstri, M.A.

C. Little, Esq., M.A.

Other Members of Council :

Bābu Pratāpachandra Ghosha, B.A.

Brigade-Surgeon-Lieut.-Col. D. D. Cunningham, C.I.E.,

M.B., F.R.S.

Dr. G. Watt, C.I.E.

Dr. P. K. Ray.

R. D. Oldham, Esq., A.R.S.M., F.G.S.

Surgeon-Captain A. R. S. Anderson, B.A., M.B.

A. T. Pringle, Esq.

G. W. Küchler, Esq., M.A.

The Hon. Mr. H. H. Risley, C.I.E., B.A., I.C.S.

LIST OF ORDINARY MEMBERS.

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R. = Resident. N. R. = Non-Resident. A. = Absent. N. S. = Non-Subscribing.  
L. M. = Life Member. F. M. = Foreign Member.

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N. B.—Members who have changed their residence since the list was drawn up are requested to give intimation of such a change to the *Secretaries*, in order that the necessary alteration may be made in the subsequent edition. Errors or omissions in the following list should also be communicated to the *Secretaries*.

Members who are about to leave India and do not intend to return are particularly requested to notify to the *Secretaries* whether it is their desire to continue Members of the Society; otherwise, in accordance with Rule 40 of the Bye-Laws, their names will be removed from the list at the expiration of three years from the time of their leaving India.

Date of Election.		
1896 Mar. 4.	R.	Abdul Karim, Maulvie, B. A. <i>Calcutta</i> .
1894 Sept. 27.	N.R.	Abdul Wali, Maulvie. <i>Sailkapa, Jessore District</i> .
1895 May 1.	N.R.	Abdus Salam, Maulvie, M. A. <i>Brahmanbaria, Tipperah</i> .
1888 Feb. 1.	F.M.	Adamson, Major Charles Henry Ellison, M. S. C. <i>Europe</i> .
1895 Aug. 29.	A.	Agnew, Henry De Courcy. <i>Europe</i> .
1860 July 4.	N.R.	Ahmad Khān, The Hon. Maulvie Sir Sayid, Bahadur, K. C. S. I. <i>Aligarh</i> .
1888 April 4.	R.	Ahmud, Shams-ul-ulama Maulvie, Arabic Professor, Presidency College. <i>Calcutta</i> .
1888 Feb. 1.	R.	Alcock, Surgeon-Major Alfred William, M. B., C. M. Z. S., Superintendent, Indian Museum, <i>Calcutta</i> .
1884 Mar. 5.	L.M.	Ali, Sir Ali Qadr Syud Hassan, Nawāb Bahadur, K. C. I. E. <i>Murshedabad</i> .
1885 Mar. 4.	N.R.	Ali Bilgrāmi, Sayid, B. A., A. R. S. M., F. G. S. <i>Hyderabad</i> .
1874 June 3.	R.	Amir Ali, The Hon., C. I. E., M. A. Barrister-at-Law, Judge, High Court. <i>Calcutta</i> .
1865 Jan. 11.	F.M.	Anderson, John, M. D., F. R. S., F. L. S. <i>Europe</i> .
1884 Sept. 3.	F.M.	Anderson, J. A. <i>Europe</i> .
1893 Aug. 31.	N.R.	Anderson, Surgeon-Captain A. R. S., B. A., M. B. <i>Bombay</i> .
1892 Jan. 6.	R.	Arnold, Henry Kerchever Walter. <i>Calcutta</i> .
1890 July 2.	N.R.	Arnold, Thomas Walker, B. A., M. R. A. S. <i>Aligarh</i> .
1872 April 3.	N.R.	Ashān-ullah, Nawāb, Khan Bahadur. <i>Dacca</i> .

Date of Election.		
1889 Aug. 29.	N.R.	Asiz-ud-din Ahmad, Deputy Magistrate. <i>Jaunpur.</i>
1870 Feb. 2.	L.M.	Baden-Powell, Baden Henry, C. I. E., M. A. <i>Europe.</i>
1891 Mar. 4.	N.R.	Baillie, D. C., C. S. <i>Naini Tal.</i>
1892 Aug. 3.	A.	Baker, Lieutenant Donald. <i>Europe.</i>
1891 April 1.	N.R.	Baker, E. C. S. <i>North Cachar.</i>
1889 May 1.	R.	Banerji, The Hon. Gurudās, M. A., D. L., Judge, High Court. <i>Calcutta.</i>
1896 Mar. 4.	N.R.	Banerji, Satish Chandra, M. A. <i>Allahabad.</i>
1869 Dec. 1.	L.M.	Barker, R. A., M. D. <i>Europe.</i>
1885 Nov. 4.	R.	Barman, Dāmudar Dās. <i>Calcutta.</i>
1877 Jan. 17.	N.R.	Barman, Kishor Kumār Rādhā Dev, Juvraj of Hill Tipperah. <i>Tipperah.</i>
1894 Sept. 27.	R.	Basu, Nagendra Natha. <i>Calcutta.</i>
1893 April 5.	N.R.	Batabyal, Umes Chunder, C. S. <i>Bogra.</i>
1864 Sept. 7.	A.	Beames, John. <i>Europe.</i>
1895 July 3.	L.M.	Beatson-Bell, N. D., C. S. <i>Backergunge.</i>
1878 Sept. 25.	A.	Beighton, T. D., C. S. <i>Europe.</i>
1876 Nov. 15.	F.M.	Beveridge, Henry. <i>Europe.</i>
1896 May 6.	R.	Bhaduri, Aghore Chandra. <i>Calcutta.</i>
1878 Oct. 4.	R.	Bhakta, Krishna Gopāl. <i>Calcutta.</i>
1879 Mar. 5.	A.	Biddulph, Col. J., B. S. C. <i>Europe.</i>
1859 Aug. 3.	L.M.	Blanford, W. T., D. C. L., F. R. S., A. R. S. M., F. G. S., F. R. G. S., F. Z. S. <i>Europe.</i>
1897 Feb. 3.	R.	Bloch, T., PH. D. <i>Calcutta.</i>
1893 Feb. 1.	N.R.	Bodding, The Rev. P. O. <i>Rampore Haut.</i>
1885 Mar. 4.	R.	Bolton, C. W., C. S. <i>Calcutta.</i>
1895 July 3.	N.R.	Bonham-Carter, N., C. S. <i>Dinagpur.</i>
1890 July 2.	R.	Bonnerjee, Womes Chunder, Barrister-at-Law, Middle Temple. <i>Calcutta.</i>
1897 June 2.	R.	Bose, Annadaprasad. <i>Calcutta.</i>
1893 Mar. 1.	R.	Bose, Bhupendra Nath, Solicitor. <i>Calcutta.</i>
1895 Mar. 6.	R.	Bose, J. C., M. A., Bengal Education Service. <i>Calcutta.</i>
1880 Nov. 3.	N.R.	Bose, Pramatha Nath, B. Sc., F. G. S., Geological Survey of India. <i>Camp Mandla, C. I.</i>
1890 Dec. 3.	N.R.	Bose, Rai Nali Naksha, Bahadur, Chairman, Burdwan Municipality. <i>Burdwan.</i>
1895 April 3.	N.R.	Bourdillon, J. A., C. S. <i>Bankipur.</i>
1876 May 4.	A.	Bradshaw, Surgeon-Major-General A. F., C. B., M. D. <i>Europe.</i>
1860 Mar. 7.	L.M.	Brandis, Sir Dietrich, K. C. I. E., PH. D., F. L. S. F. R. S. <i>Europe.</i>
1887 May 4.	R.	Burāl, Nobinchānd, Solicitor. <i>Calcutta.</i>
1896 Jan. 8.	N.R.	Burn, Richard, C. S. <i>Kasia, Gorakhpur.</i>
1862 Feb. 5.	L.M.	Bysack, Gaurdās. <i>Calcutta.</i>
1896 Jan. 8.	R.	Caddy, Dr. Arnold. <i>Calcutta.</i>
1895 July 3.	A.	Carey, H. D., C. S. <i>Europe.</i>

Date of Election.		
1895 July 3.	N.R.	Carlyle, R. W., c. s. <i>Comillah.</i>
1896 Nov. 4.	A.	Cave-Browne, J. A., I. C. S. <i>Europe.</i>
1890 June 4.	N.R.	Chakravarti, Man Mohan, M. A., B. L., Deputy Magistrate. <i>Jajpur, Cuttack.</i>
1894 Aug. 1.	N.R.	Chatterjee, M. N., Professor of Philosophy, Maharaja's College. <i>Patalia.</i>
1893 July 5.	N.R.	Chatterjee, Radhikāman. <i>Rungpur.</i>
1892 Aug. 3.	N.R.	Chaube, Behary Lall. <i>Bankipur.</i>
1893 Sept. 28.	N.R.	Chaudhuri, Banawarilala, B. Sc. Edin. <i>Sherpur, Mymensingh.</i>
1861 Mar. 1.	N.R.	Chaudhuri, Harachandra, Zemindar. <i>Sherpur, Mymensingh.</i>
1880 Nov. 3.	R.	Chaudhuri, Rāi Khirod Chandra. <i>Chinsurah.</i>
1890 Feb. 5.	A.	Chuckerbutty, A. Goodeve, c. s. <i>Europe.</i>
1880 Aug. 26.	F.M.	Clerk, Colonel Malcolm G. <i>Europe.</i>
1881 May 4.	N.R.	Cockburn, John, Asst. Sub-Deputy Opium Agent. <i>Etawah.</i>
1889 Nov. 6.	R.	Colville, William Brown. <i>Calcutta.</i>
1890 Dec. 3.	R.	Connan, William, c. s. <i>Calcutta.</i>
1876 Mar. 1.	F.M.	Crawford, James, B. A., c. s. <i>Europe.</i>
1887 Aug. 25.	R.	Criper, William Risdon, F. C. S., F. I. C., A. R. S. M. <i>Calcutta.</i>
1877 June 6.	A.	Croft, Sir A. W., K. C. I. E., M. A. <i>Europe.</i>
1874 Mar. 4.	R.	Crombie, Brigade-Surgeon-Lieutenant-Colonel Alexander, M. D. <i>Calcutta.</i>
1895 July 3.	N.R.	Cumming, J. G., c. s. <i>Comillah.</i>
1873 Dec. 3.	N.R.	Dames, Mansel Longworth, c. s., Asst. Commissioner. <i>Dera Ghazi Khan.</i>
1892 Mar. 2.	N.R.	Das, Gopal Ballabh, M. A. <i>Cuttack.</i>
1896 Mar. 4.	R.	Das-Gupta, J. N., B. A., Barrister-at-Law. <i>Calcutta.</i>
1865 June 7.	N.R.	Dās, Raja Jaykrishna, Bahadur, c. s. i. <i>Moradabad.</i>
1879 April 7.	N.R.	Dās, Rām Saran, M. A., Secy., Oudh Commercial Bank, Limited. <i>Fyzabad, Oudh.</i>
1896 Dec. 2.	N.R.	Davis, A. W., I. C. S. <i>Kohima.</i>
1893 Nov. 1.	N.R.	Dē, B, c. s. <i>Balasore.</i>
1885 May 6.	N.R.	Dē, Raja Baikuntanāth, Bahadur. <i>Balasore.</i>
1895 Sept. 19.	N.R.	De, Kiran Chandra, c. s. <i>Ranaghat.</i>
1895 Dec. 4.	N.R.	Delmerick, Charles Swift. <i>Budaon.</i>
1893 Mar. 1.	F.M.	Deussen, Dr. Paul. <i>Europe.</i>
1896 Jan. 8.	N.R.	Dewhurst, R. Paget. <i>Benares.</i>
1886 June 2.	R.	Doyle, Patrick, C. E., M. E. I. A., M. I. C. E. I., F. R. A. S., F. E. S. E., F. G. S., F. E. Met. S., L. S. (Exam.), M. Lond. Math. Soc., F. S. S., Fel. San. Inst., M. Aus. Inst. M. E. <i>Calcutta.</i>
1892 Sept. 22.	A.	Drury, Dr. F. J. <i>Europe.</i>
1889 Jan. 2.	N.R.	Dudgeon, Gerald Cecil, <i>Nunkab, W. Doars.</i>

Date of Election.		
1879 Feb. 5.	A.	Duthie, J. F. <i>Europe.</i>
1892 Jan. 6.	N.R.	Dutt, Gerindranath. <i>Hatwa.</i>
1877 Aug. 30.	R.	Dutt, Kedārnāth. <i>Calcutta.</i>
1892 Aug. 25.	R.	Dutt, Narsingh. <i>Howrah.</i>
1890 Sept. 25.	A.	Dutt, Romesh Chunder, c. s., Barrister-at-Law, Middle Temple. <i>Europe.</i>
1870 Mar. 9.	L.M.	Edinburgh, H. R. H. The Duke of. <i>Europe.</i>
1871 Dec. 2.	N.R.	Eliot, J., C. I. E., M. A. Meteorological Reporter to the Govt. of India. <i>Simla.</i>
1894 Dec. 5.	R.	Finn, Frank, B. A., F. Z. S. <i>Calcutta.</i>
1886 April 7.	A.	Fleet, John Faithfull, C. I. E., C. S. <i>Europe.</i>
1892 May 4.	A.	Forrest, G. W., B. A., <i>Europe.</i>
1876 July 5.	N.R.	Foulkes, The Rev. Thos., F. L. S., M. R. A. S., F. R. G. S. <i>Salem, Madras Presidency.</i>
1893 Jan. 11.	N.R.	Gait, E. A., c. s. <i>Krishnagur.</i>
1859 Aug. 3.	L.M.	Gastrell, General James Eardley. <i>Europe.</i>
1889 Jan. 2.	R.	Ghose, Jogendrachandra, M. A., B. L. <i>Calcutta.</i>
1889 Mar. 6.	R.	Ghosh, Bhupendra Sri. <i>Calcutta.</i>
1869 Feb. 3.	R.	Ghosh, Pratāpachandra, B. A. <i>Calcutta.</i>
1895 April 3.	R.	Gilliland, J. H., Bengal Education Service. <i>Calcutta.</i>
1897 Dec. 6.	N.R.	Godfrey, Captain Stuart. <i>Kashmir.</i>
1861 Feb. 5.	N.S.	Godwin-Austen, Lieut.-Colonel H. H., F. R. S. F. Z. S., F. R. G. S. <i>Europe.</i>
1890 Aug. 6.	R.	Goethals, The Most Rev. Paul, D. D., S. J., Archbishop. <i>Calcutta.</i>
1896 Nov. 4.	N. R.	Grant, A. J. <i>Wana, Waziristan.</i>
1897 July 7.	N.R.	Grant, Dr. J. W. <i>Bombay.</i>
1892 Aug. 25.	N.R.	Greeven, R., c. s. <i>Naini Tal.</i>
1876 Nov. 15.	N.R.	Grierson, Dr. George Abraham, C. I. E., C. S. <i>Bankipur.</i>
1885 Dec. 2.	R.	Griesbach, C. L., C. I. E., F. G. S. <i>Calcutta.</i>
1897 July 7.	R.	Grimes, G. E. <i>Calcutta.</i>
1888 July 4.	R.	Gupta, Rajanikānta. <i>Calcutta.</i>
1892 Jan. 6.	A.	Haig, Lieutenant Wolseley. <i>Europe.</i>
1883 Jan. 3.	N.R.	Harding, Francis Henry, B. A., C. S. <i>Shahabad.</i>
1897 Feb. 3.	R.	Hayden, H. H. <i>Calcutta.</i>
1890 June 4.	A.	Heilgers, Robert Philip, Consul for H. I. M. the Emperor of Austria and Hungary, Knight of the Imperial Order of the Iron Crown, Commandeur Ordre Impériale de Medjidié, F. R. G. S., F. R. S. S. <i>Europe.</i>
1875 Mar. 3.	A.	Hendley, Brigade-Surgeon Lt.-Col. Thomas Holbein, C. I. E. <i>Europe.</i>

Date of Election.		
1890 April 2.	A.	Hickson, F. G. <i>Europe.</i>
1892 Aug. 3.	N.R.	Hill, Samuel Charles. <i>Parulia.</i>
1872 Dec. 5.	R.	Hoernle, A. F. R., PH. D., C. I. E., Principal of the Calcutta Madrasa.
1878 Mar. 6.	N.R.	Hoey, Dr. W., c. s. <i>Gorakhpur.</i>
1886 June 2.	R.	Hogg, Alexander. <i>Calcutta.</i>
1891 July 1.	N.R.	Holland, Thomas H., F. G. S. Geological Survey of India. <i>Madras.</i>
1884 Mar. 5.	N.R.	Hooper, John, c. s., Secretary, Board of Revenue. <i>Allahabad. N.-W. P.</i>
1873 Jan. 2.	L.M.	Houstoun, G. L., F. G. S. <i>Europe.</i>
1863 Jan. 15.	A.	Howell, Mortimer Sloper, c. s., C. I. E. <i>Europe.</i>
1884 May 2.	N.R.	Hussein, Sayid, B. A., Secy. to Nizam of Hyderabad's Council. <i>Hyderabad.</i>
1890 Dec. 3.	R.	Hyde, The Rev. Henry Barry, M. A. <i>Calcutta.</i>
1866 Mar. 7.	F.M.	Irvine, William, c. s. <i>Europe.</i>
1879 April 2.	R.	Johnson, The Most Revd. Edward Ralph, D.D., LL. D., Lord Bishop of Calcutta.
1895 Dec. 4.	N.R.	Kennedy, J., c. s. <i>Comilla.</i>
1882 Mar. 1.	N.R.	Kennedy, Pringle, M. A. <i>Mozufferpur.</i>
1874 Dec. 2.	N.R.	Khuda Baksh, Maulvie, Khan Bahadur. <i>Bunkipur.</i>
1867 Dec. 4.	R.	King, Brigade-Surgeon Sir George, C. I. E., K. C. S. I., M. B., F. L. S., Supdt., Royal Botanic Garden. <i>Sibpur.</i>
1881 Mar. 2.	N.R.	King, Lucas White, B. A., LL. B., C. S. <i>Kohat.</i>
1896 Aug. 27.	R.	Konstam, E. M., I. C. S. <i>Calcutta.</i>
1896 July 1.	R.	Küchler, G. W., M. A. <i>Calcutta.</i>
1891 Feb. 4.	N.R.	Kupper, The Hon. Lala Bunbehari. <i>Burdwan.</i>
1898 July 1.	R.	Laharry, S. C. <i>Ohinsurah.</i>
1887 May 4.	L.M.	Lauman, Charles R., Corresponding Secretary of the American Oriental Society, Professor of Sanskrit in Harvard College. <i>Cambridge, Mass., U. S., America.</i>
1889 Mar. 6.	A.	LaTouche, Thomas Henry Digges, M. A. <i>Europe.</i>
1889 Nov. 6.	A.	Lee, W. A. <i>Europe.</i>
1889 Feb. 6.	R.	Little, C., M. A., Bengal Education Service. <i>Calcutta.</i>
1886 Sept. 30.	R.	Luson, Hewling, c. s. <i>Calcutta.</i>
1869 July 7.	N.R.	Lyall, Charles James, C. S. I., C. I. E., M. A., LL. D., Chief Commissioner, C. P. <i>Nagpur.</i>
1892 Sept. 22.	A.	Lyell, George. <i>Europe.</i>
1870 April 7.	L.M.	Lyman, B. Smith. <i>Philadelphia, Pa., U. S., America.</i>
1868 Dec. 2.	A.	Macauliffe, Michael, B. A., c. s. <i>Europe.</i>
1896 Mar. 4.	N.R.	MacBlaine, F., I. C. S. <i>Nowgong.</i>

Date of Election.		
1893 Jan. 11.	L.M.	MacLagan, E. D., M. A., C. S. <i>Multan.</i>
1891 Feb. 4.	N.R.	Macpherson, Duncan J., C. S. <i>Motihari.</i>
1896 Feb. 5.	A.	Macpherson, W. C. <i>Europe.</i>
1893 Aug. 31.	N.R.	Mahatha, Purnmeshwar Narain. <i>Mozufferpur.</i>
1895 Sept. 19.	R.	Mahomed Abdul Kadar, Khan Bahadur. <i>Calcutta.</i>
1895 Aug. 29.	R.	Mahomed Gilani, Shams-ul-ulama Shaikh. <i>Calcutta.</i>
1886 Jan. 6.	N.R.	Mahomed Latif Khān, Sayid, Khan Bahadur. <i>Jullunder.</i>
1882 Aug. 2.	R.	Mahomed Yusoof, The Hon. Maulvie, Khan Bahadur. <i>Calcutta.</i>
1889 Jan. 2.	R.	Maliāh, Kumār Rameswār. <i>Howrah.</i>
1893 July 5.	R.	Mangos, C. D. <i>Calcutta.</i>
1889 Mar. 6.	R.	Mann, John, M. A. <i>Calcutta.</i>
1893 Mar. 1.	R.	Marriott, C. R., C. S. <i>Calcutta.</i>
1892 April 6.	N.R.	Maynard, Surgeon-Captain F. P. <i>Ranchi.</i>
1886 Mar. 3.	L.M.	Mehtā, Rustomjee Dhunjeebhoy, C. I. E. <i>Calcutta.</i>
1895 July 3.	N.R.	Melitus, P. G., C. S. <i>Shillong.</i>
1884 Nov. 5.	N.R.	Middlemiss, C. S., B. A., Assistant Superintendent, Geological Survey of India. <i>Hasur, Salem Dt.</i>
1884 Sept. 3.	R.	Miles, William Harry. <i>Calcutta.</i>
1870 July 6.	R.	Miller, A. B., B. A., Barrister-at-Law, Official Trustee. <i>Calcutta.</i>
1874 May 6.	N.R.	Minchin, F. J. V. <i>Aska, Ganjam.</i>
1896 July 1.	N.R.	Misra, Rai Lakshmi Sanker, Bahadur. <i>Benares.</i>
1897 Jan. 6.	N.R.	Misra, Tulsi Ram. <i>Aligarh.</i>
1895 Mar. 6.	N.R.	Mitra, Rajeswar. <i>Nagpur.</i>
1897 Nov. 3.	R.	Mitra, Saroda Churan, M. A., B. L. <i>Calcutta.</i>
1890 Dec. 3.	N.R.	Mitra, Varadā Charana. Joint-Magistrate. <i>Farridpur.</i>
1895 July 8.	N.R.	Monahan, J. G., C. S. <i>Shillong.</i>
1879 May 7.	N.R.	Muir, J. W., M. A., C. S. <i>Fatihgurh.</i>
1885 July 1.	R.	Mukerjee, Mahāmahopādhyāya Nilmani, Principal, Sanskrit College. <i>Calcutta.</i>
1892 Mar. 2.	R.	Mukerjee, Nrisinha Chundra. <i>Calcutta.</i>
1867 Mar. 6.	R.	Mukerjee, The Hon. Raja Pearimohan, M. A., C. S. I <i>Uttarpara.</i>
1894 Aug. 30.	R.	Mukerjee, Sibnarayan. <i>Uttarpara.</i>
1896 Aug. 27.	R.	Mukerjee, Syamdas. <i>Calcutta.</i>
1886 May 5.	R.	Mukhopādhyāya, Asutosh, M. A., D. L., F. R. A. S., F. R. S. E. <i>Calcutta.</i>
1892 Dec. 7.	R.	Mukhopādhyāya, Panchanana. <i>Calcutta.</i>
1896 April 1.	R.	Mullick, Sham Lall. <i>Calcutta.</i>
1896 Aug. 5.	R.	Munro, Thomas, M. <i>Calcutta.</i>
1887 May 4.	A.	Munro, Thomas R. <i>Europe.</i>
1885 June 3.	N.R.	Naemwoollah, Maulvie, Deputy Magistrate. <i>Saharanpur.</i>
1887 June 1.	N.R.	Narain, Rāo Govind Rāo. <i>Allahabad.</i>

Date of Election.		
1881 Nov. 2.	R.	Nicéville, L. de., F. E. S., C. M. Z. S. <i>Calcutta.</i>
1889 Aug. 29.	L.M.	Nimmo, John Duncan. <i>Calcutta.</i>
1887 April 6.	R.	Noetling, Fritz, PH. D. <i>Calcutta.</i>
1894 June 6.	N.R.	Nomani, Shams-ul-ulama Maulvie Muhammad, Professor of Arabic in the Muhammadan Oriental College. <i>Aligarh.</i>
1892 Oct. 27.	N.R.	Norvill, Dr. Frederic H. <i>Dibrugarh.</i>
1885 Feb. 4.	B.	Nyāyaratna, Mahāmahopādhyāya Mahesachandra C. I. E. <i>Calcutta.</i>
1879 Aug. 28.	A.	Oldham, Brigade-Surgeon C. F., F. R. G. S. <i>Europe.</i>
1883 Dec. 1.	R.	Oldham, R. D., A. R. S. M., F. G. S., Superintendent, Geological Survey of India. <i>Calcutta.</i>
1883 Aug. 30.	N.R.	Oliver, Edw. Emmerson, M. I. C. E. <i>Nagpur.</i>
1887 July 6.	N.R.	Oung, Moung Hla. <i>Rangoon.</i>
1880 Aug. 4.	L.M.	Pandia, Pandit Mohanlāl Vishnulāl, F. T. S., Prime Minister, Partabgarh State. <i>Rajputana via Mand-saur.</i>
1880 Jan. 7.	A.	Pargiter, Frederick E., B. A., C. S. <i>Europe.</i>
1862 May 7.	L.M.	Partridge, Surgeon-Major Samuel Bowen, M. D. <i>Europe.</i>
1873 Aug. 6.	R.	Pedler, Alexander, F. R. S., Bengal Education Service. <i>Chinsurah.</i>
1888 June 6.	L.M.	Pennell, Aubray Percival, B. A., C. S. <i>Rangoon.</i>
1881 Aug. 25.	R.	Percival, Hugh Melville, M. A., Bengal Education Service. <i>Calcutta.</i>
1877 Aug. 1.	N.R.	Peters, Brigade-Surgeon Lieut.-Colonel C. T., M. B. <i>Bombay.</i>
1889 Nov. 6.	N.R.	Phillott, Capt. D. C. <i>Kohat.</i>
1896 Jan. 8.	N.R.	Place, G., I. C. S. <i>Motihari.</i>
1889 Mar. 6.	R.	Prain, David, Royal Botanic Garden, <i>Sibpur.</i>
1892 Aug. 3.	R.	Pramanick, Asutosh. <i>Calcutta.</i>
1889 Mar. 6.	N.R.	Prasad, Hanuman, Raes and Zemindar. <i>Chunar.</i>
1896 Sept. 25.	R.	Pringle, A. T. <i>Calcutta.</i>
1880 April 7.	R.	Rai, Bipina Chandra, B. L. <i>Serampore.</i>
1895 Aug. 29.	N.R.	Rai, Jatindranath Chaudhery, M. A., B. L. <i>Taki.</i>
1894 Aug. 30.	R.	Ranking, Surgeon-Lieutenant-Colonel George, M. D. <i>Calcutta.</i>
1895 Aug. 7.	R.	Ray, Mahendranath, M. A., B. L. <i>Howrah.</i>
1887 May 4.	R.	Rāy, Prasannakumār, D. SC. (Lond. and Edin.) Professor, Presidency College. <i>Calcutta.</i>
1895 Aug. 29.	R.	Richardson, T. W., C. S. <i>Calcutta.</i>
1884 Mar. 5.	R.	Risley, The Hon. H. H., C. I. E., B. A., C. S. <i>Calcutta</i>
1896 Dec. 2.	N.R.	Row, Suryanaran, B. A. <i>Belary.</i>

Date of Election.		
1895 Mar. 6.	R.	Rowe, F. J., M. A. <i>Calcutta.</i>
1889 June 5.	N.R.	Roy, Maharaja Girjanath. <i>Dinagepur.</i>
1890 Mar. 5.	R.	Roy, P. C., Bengal Education Service. <i>Calcutta.</i>
1885 Mar. 4.	R.	Rustomjee, H. M. <i>Calcutta.</i>
1893 Aug. 2.	R.	Samajpati, Suresh Chundra. <i>Calcutta.</i>
1896 Aug. 27.	R.	Samman, H. F., I. C. S. <i>Serampore.</i>
1887 June 1.	N.R.	Sandberg, The Rev. Graham, B. A., Barrister-at-Law, Inner Temple. Chaplain. <i>Nowgong.</i>
1867 April 3.	R.	Sarkār, Dr. Mahendralāl, C. I. E. <i>Calcutta.</i>
1897 Jan. 6.	R.	Sarkār, Amritlal, F. C. S. <i>Calcutta.</i>
1885 Mar. 4.	R.	Sarvādhikāri, Rāj Kumār, Rai Bahadur. <i>Calcutta.</i>
1897 Nov. 3.	R.	Saunders, C. <i>Calcutta.</i>
1893 Jan. 11.	L.M.	Scindia, His Highness the Maharaja.
1874 July 1.	R.	Scully, Dr. John, F. C. S. <i>Calcutta.</i>
1896 April 1.	R.	Sen, The Hon'ble Guruprasad. <i>Calcutta.</i>
1886 Mar. 3.	R.	Sen, Hirālāl. <i>Calcutta.</i>
1885 April 1.	R.	Sen, The Hon. Narendranāth. <i>Calcutta.</i>
1885 April 1.	R.	Sen, Yadunāth. <i>Calcutta.</i>
1897 Dec. 1.	R.	Seth, M. J. <i>Calcutta.</i>
1885 Feb. 4.	R.	Shāstri, Mahāmahapādhyāya Haraprasād, M. A. <i>Calcutta.</i>
1891 June 3.	N.R.	Shillingford, Frederick Alexander. <i>Purneah.</i>
1889 Nov. 6.	N.R.	Simpson, Edmund James, L. R. C. P. E., F. L. P. S. G., L. M. G. E., Civil Surgeon. <i>Rai Bareilly.</i>
1887 April 6.	A.	Simpson, Dr. W. J. <i>Europe.</i>
1893 Mar. 1.	N.R.	Singh, Maharajah Kumara Sirdar Bharat, C. S. <i>Rai Bareilly.</i>
1880 June 2.	N.R.	Singh, Thākur Garuradhawaya Prasād, Raja of Beswan. <i>Beswan Fort, Aligarh.</i>
1895 Aug. 29.	R.	Singh, Lachmi Nārāyan, M. A., B. L. <i>Calcutta.</i>
1877 June 6.	N.R.	Singh, H. H. the Hon. Maharaja Sir Luchmessur, Bahadur, K. C. I. E. <i>Darbhanga.</i>
1892 Mar. 2.	L.M.	Singh, The Hon. Raja Oodaypratab. <i>Binga.</i>
1889 Aug. 29.	N.R.	Singh, H. H. Prabhunarain, Bahadur, Maharaja of Benares.
1859 Aug. 3.	N.R.	Singh, H. H. the Hon. Maharaja Pratap Narain. <i>Ajodhya, Oudh.</i>
1895 Aug. 29.	N.R.	Singh, Rām Din. <i>Bankipur.</i>
1889 Nov. 6.	N.R.	Singh, The Hon. Raja Rameshwara, Bahadur. <i>Darbhanga.</i>
1894 Feb. 7.	N.R.	Singh, H. H. Raja Vishwanath, Bahadur, Chief of Chhatarpur.
1893 April 5.	N.R.	Siñha, Raja Bhupendra, Bahadur, Raja of Bijoypur <i>Mirzapur.</i>
1894 July 4.	N.R.	Siñha, Kunwar Kushal Pal, M. A. <i>Narkī P. O., Agra District.</i>
1872 Aug. 5.	A.	Skrefsrud, The Rev. L. O. <i>Europe.</i>

Date of Election.		
1874 June 3.	N.R.	Smith, Vincent Arthur, c. s. <i>Gorakhpur.</i>
1891 Aug. 27.	N.R.	Stein, Dr. M. A. <i>Lahore.</i>
1895 July 5.	A.	Steinberg, A. F., c. s. <i>Europe.</i>
1868 June 3.	R.	Tagore, The Hon. Maharaja Sir Jotendra Mohun, Bahadur, K. C. S. I. <i>Calcutta.</i>
1897 Dec. 1.	N.R.	Talbot, W. A. <i>Dharmar</i>
1893 Aug. 31.	N.R.	Tate, G. P., Survey of India. <i>Karachi.</i>
1878 June 5.	N.R.	Temple, Major R. C., s. c. <i>Port Blair.</i>
1875 June 2.	N.R.	Thibaut, Dr. G., Professor, Muir Central College. <i>Allahabad.</i>
1886 Aug. 4.	R.	Thomas, Robert Edmond Skyring. <i>Calcutta.</i>
1847 June 2.	L.M.	Thuillier, Lieut.-Genl. Sir Henry Edward Landor, KNT., C. S. I., F. R. S. B. A. <i>Europe.</i>
1889 Mar. 6.	A.	Thuillier, Colonel H. R., R. E. <i>Europe.</i>
1891 Aug. 27.	N.R.	Thurston, Edgar. <i>Madras.</i>
1871 April 5.	F.M.	Treffitz, Oscar. <i>Europe.</i>
1861 June 5.	L.M.	Tremlett, James Dyer, M. A., c. s. <i>Europe.</i>
1893 May 3.	N.R.	Vandja, Raja Ram Chandra. <i>Mayurbhanga, District Balasore.</i>
1890 Feb. 5.	N.R.	Venis, Arthur, M. A., Former Boden Sanskrit Scholar, Oxford, Principal, Sanskrit College, Benares, Professor, Queen's College. <i>Benares.</i>
1895 Dec. 4.	N.R.	Vidyabhushan, Harimohan. <i>Krishnagar.</i>
1896 May 6.	R.	Vidyanidhi, Mahendranath. <i>Calcutta.</i>
1894 Sept. 27.	L.M.	Vost, Surgeon-Captain William. <i>Gonda.</i>
1895 July 5.	A.	Waddell, Dr. L. A. <i>Europe.</i>
1889 Nov. 6.	N.R.	Walsh, Surgeon-Major J. H. Tull. <i>Midnapur.</i>
1865 May 3.	A.	Waterhouse, Col. James, B. S. C. <i>Europe.</i>
1874 July 1.	R.	Watt, Dr. George, C. I. E. <i>Calcutta.</i>
1892 Aug. 3.	R.	Whitehead, The Rev. Henry, M. A. <i>Calcutta.</i>
1896 Feb. 5.	N.R.	Williams, Surgeon-Captain Charles E. <i>Nowshera.</i>
1891 May 6.	N.R.	Wilson, Charles Robert, M. A., Bengal Education Service. <i>Bankipore.</i>
1892 Jan. 6.	R.	Woodburn, The Hon. Sir, J., K. C. S. I., C. S. <i>Calcutta.</i>
1894 Sept. 27.	R.	Woodroffe, John George, Barrister-at-Law. <i>Calcutta.</i>
1873 Aug. 6.	A.	Woodthorpe, Col. Robert Gossett, C. B., R. E. <i>Europe.</i>
1894 Aug. 30.	N.R.	Wright, Henry Nelson, c. s. <i>Allahabad.</i>
1897 Jan. 6.	N.R.	Zaka-ullah, Shams-ul-ulama Muhammad. <i>Dehli.</i>

SPECIAL HONORARY CENTENARY MEMBERS.

Date of Election.	
1884 Jan. 15.	Dr. Ernst Haeckel, Professor in the University of <i>Jena</i> .
1884 Jan. 15.	Charles Meldrum, Esq., M. A., F. R. S. <i>Mauritius</i> .
1884 Jan. 15.	A. H. Sayce, Esq., Professor of Comp. Philology. <i>Oxford</i> .
1884 Jan. 15.	Monsieur Emile Senart, Member of the Institute of France. <i>Paris</i> .
1884 Jan. 15.	Sir Monier Monier-Williams, <i>Knt.</i> , K. C. I. E., M. A., D. C. L., LL. D., Boden Prof. of Sanskrit. <i>Oxford</i> .

HONORARY MEMBERS.

1848 Feb. 2.	Sir J. D. Hooker, K. C. S. I., C. B., M. L., D. C. D., F. R. S., F. G. S. <i>Kew</i> .
1860 Mar. 7.	Professor Max Müller. <i>Oxford</i> .
1860 Nov. 7.	Dr. Albrecht Weber. <i>Berlin</i> .
1875 Nov. 3.	Dr. O. Böhtlingk. <i>Leipzig</i> .
1879 June 4.	Prof. E. B. Cowell, D. C. L. <i>Cambridge</i> .
1879 June 4.	Dr. A. Günther, V. P. R. S. <i>London</i> .
1879 June 4.	Dr. J. Janssen. <i>Paris</i> .
1879 June 4.	Prof. P. Regnaud. <i>Lyons</i> .
1881 Dec. 7.	Lord Kelvin, D. C. L. <i>Glasgow</i> .
1883 Feb. 7.	W. T. Blanford, Esq., D. C. L., F. R. S., A. R. S. M., F. G. S., F. R. G. S., F. Z. S. <i>London</i> .
1883 Feb. 7.	Alfred Russell Wallace, Esq., F. L. S., F. R. G. S. <i>Parkstone, Dorsetshire</i> .
1894 Mar. 7.	Sir William Henry Flower, K. C. B., D. C. L. <i>London</i> .
1894 Mar. 7.	Dr. Edward Frankland, D. C. L., F. R. S. <i>Reigate</i> .
1894 Mar. 7.	Sir George Gabriel Stokes, Bart, F. R. S. <i>Cambridge</i> .
1894 Mar. 7.	Mahamahopādhyaya Chandra Kanta Tarkalankara. <i>Calcutta</i> .
1894 Mar. 7.	Professor Theodor Noeldeke. <i>Strassburg</i> .
1895 June 5.	Dr. G. Bühler, L. L. D., C. I. E. <i>Vienna</i> .
1895 June 5.	Lord Rayleigh. <i>London</i> .
1895 June 5.	Lt.-Genl. Sir R. Strachey, G. C. S. I., D. C. L., L. L. D., F. R. S., R. E. <i>London</i> .
1895 June 5.	C. H. Tawney, C. I. E., M. A. <i>London</i> .
1896 Feb. 5.	Sir Joseph Lister, P. R. S.
1896 Feb. 5.	Professor Michael Foster, F. R. S.
1896 Feb. 5.	Professor F. Kielhorn, C. I. E.
1896 Feb. 5.	Professor C. R. Lanman.

CORRESPONDING MEMBERS.

Date of Election.

1866 May 7. Schlagintweit, Prof. E. von. *Berlin.*

ASSOCIATE MEMBERS.

1874 April 1.	Lafont, The Revd. E., C. I. E., S. J. <i>Calcutta.</i>
1875 Dec. 1.	Bate, The Rev. J. D. <i>Europe.</i>
1875 Dec. 1.	Abdul Hai, Maulvie. <i>Calcutta.</i>
1882 June 7.	Giles, Herbert. <i>Europe.</i>
1883 Feb. 7.	Rodgers, C. J. <i>Europe.</i>
1884 Aug. 6.	Moore, F., F. R. S., F. L. S. <i>London.</i>
1885 Dec. 2.	Führer, Dr. A. <i>Lucknow.</i>
1886 Dec. 1.	Dās, Saratchandra, C. I. E. <i>Darjeeling.</i>
1892 April 6.	Samasrami, Satyavrata. <i>Calcutta.</i>
1892 Dec. 7.	Brühl, P. J. <i>Sibpur.</i>

LIST OF MEMBERS WHO HAVE BEEN ABSENT FROM
INDIA THREE YEARS AND UPWARDS.*

* *Rule 40.*—After the lapse of 3 years from the date of a member leaving India, if no intimation of his wishes shall in the interval have been received by the Society, his name shall be removed from the List of Members.

The following members will be removed from the next Member List of the Society, under the operation of the above Rule:—

John Beames, Esq.
 Thomas R. Munro, Esq.
 Colonel H. R. Thuillier, R.E.

LOSS OF MEMBERS DURING 1897.

BY RETIREMENT.

A. F. M. Abdur Rahman, Esq.
 Babu Janaki Nath Bhattacharjee.
 C. H. Bompas, Esq.
 A. A. Caspersz, Esq.
 Raja Suryakānta Chauduri Bahadur.
 Dr. D. D. Cunningham.
 Babu H. C. Malik.
 Dr. D. M. Moir.
 Dr. V. S. Mudaliar.
 C. E. A. W. Oldham, Esq., I. O. S.
 Babu Peary Mohon Roy.
 I. van Verdean, Esq.

TABLE III.

BY DEATH.

Ordinary Members.

Nawab Sayid Ashgar Ali Diler Jang Khan Bahadur.
 Sir Ananda Rām Gujapati, K. C. I. E.
 Prince Mahomed Firukh Shah.
 S. E. Peal, Esq.
 Raja Lachman Singh.
 W. C. Taylor, Esq.
 Captain E. Y. Watson.

STRUCK OFF UNDER COUNCIL ORDERS.

CORRESPONDING MEMBERS.

Dr. J. Macgowan.
 A. Murray, Esq.
 The Rev. J. Porter.

BY REMOVAL.

Under Rule 40.

Major A. C. Bigg-Wither.
Major H. F. Gordon Forbes.
C. H. Tawney, Esq., C. I. E.

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[APPENDIX.]

ABSTRACT STATEMENTS
OF
RECEIPTS AND DISBURSEMENTS
OF THE
ASIATIC SOCIETY OF BENGAL
FOR
THE YEAR 1897.

STATEMENT

Asiatic Society

Dr.

To ESTABLISHMENT.					Rs.	As.	P.
Salaries	...	...	...	...	3,384	5	4
Commission	...	...	...	...	351	15	10
Pension	...	...	...	...	48	0	0
					<hr/>		
					3,784	5	2
To CONTINGENCIES.							
Stationery	...	...	...	...	110	15	6
Lighting	...	...	...	...	25	8	0
Taxes	...	...	...	...	819	0	0
Postage	...	...	...	...	627	10	0
Freight	...	...	...	...	43	2	0
Meeting	...	...	...	...	72	3	0
Miscellaneous	...	...	...	...	352	3	4
					<hr/>		
					2,060	14	10
To LIBRARY AND COLLECTIONS.							
Books	...	...	...	...	3,284	3	11
Local Periodicals	...	...	...	...	16	0	0
Coins	...	...	...	...	50	8	0
Binding	...	...	...	...	792	6	0
Furniture	...	...	...	...	15	12	0
					<hr/>		
					4,153	13	11
To PUBLICATIONS.							
Journal, Part I ...	...	...	...	...	3,679	4	6
Journal, Part II	...	...	...	...	3,508	2	6
Journal, Part III	...	...	...	...	699	2	6
Proceedings	...	...	...	...	1,186	14	0
					<hr/>		
					9,073	7	6
To Printing charges of Circulars, Receipt-forms, &c.					...	250	8 0
,, Personal Account (Writes off and Miscellaneous)					...	168	5 0
To EXTRAORDINARY EXPENDITURE.							
Auditor's fee	...	...	...	...	100	0	0
Registration fee of the Society for 1897	...	...	...	...	5	0	0
Catalogue of coins	...	...	...	...	707	10	3
					<hr/>		
					812	10	3
Balance					...	1,53,455	3 7
					<hr/>		
Total Rs.					...	1,73,754	4 3
					<hr/>		

No 1.
of Bengal.

Cr.

			Rs.	As.	P.	Rs.	As.	P.
By Balance from last report	...	...	...			1,55,923	2	9
BY CASH RECEIPTS.								
Publications sold for cash	...	...	65	4	9			
Interest on Investments	...	...	5,702	8	0			
Rent of rooms on the Society's ground floor	...	...	800	0	0			
Allowance from Government of Bengal for the publication of Anthropological and Cognate Subjects	...	...	2,000	0	0			
Ditto Ditto Chief Commissioner of Assam	...	...	1,000	0	0			
Miscellaneous	...	...	178	1	0			
						9,745	13	9
BY PERSONAL ACCOUNT.								
Admission fees	...	...	368	0	0			
Subscriptions	7,047	0	0			
Sales on credit	606	5				
Miscellaneous	63	14	0			
						8,085	3	9

Total Rs.	...	1,78,754	4	3
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O. LITTLE,
Honorary Secretary and Treasurer,
Asiatic Society of Bengal.

Examined and found correct.
MEUGENS, KING & SIMSON,
Auditors.

STATEMENT

Oriental Publication Fund in Account

Dr.

To CASH EXPENDITURE.

				Rs.	As.	P.	Rs.	As.	P.
Printing charges	...	...	...	6,029	13	6			
Editing charges	...	...	...	4,365	12	0			
Salaries	...	...	...	1,236	10	8			
Freight	...	...	...	76	13	0			
Stationery	...	...	...	55	13	6			
Postage	...	...	...	318	15	0			
Commission on collecting bills	...	...	...	26	15	8			
Contingencies	...	...	...	14	7	6			
							12,125	4	10
To Personal Account (Writes off and Miscellaneous)			...				5	4	0
Balance			...				11,164	12	0
Total Rs.			...				23,295	4	10

No. 2.

*with the Asiatic Society of Bengal.***Cr.**

			Rs. As. P.	Rs. As. P.
By Balance from last Report	...	...	...	12,542 13 1
BY CASH RECEIPTS.				
Government allowance	...	...	9,000 0 0	
Publications sold for cash	...	...	367 15 6	
Advances recovered	...	...	71 15 6	
				<u>9,439 15 0</u>
BY PERSONAL ACCOUNT.				
Sales on credit	...	...	1,310 2 9	
Miscellaneous	...	...	2 6 0	
				<u>1,312 8 9</u>
Total Rs.			...	<u>23,295 4 10</u>

C. LITTLE,
Honorary Secretary and Treasurer,
Asiatic Society of Bengal.

Examined and found correct.
 MEUGENS, KING & SIMSON,
Auditors.

STATEMENT
Sanskrit Manuscript Fund in Account

Dr.

TO CASH EXPENDITURE.

				Rs.	As.	P.		Rs.	As.	P.
Salaries	...	...	...	1,068	0	0				
Travelling charges	...	...	...	474	8	0				
Purchase of manuscripts	...	...	...	458	0	0				
Postage	...	...	...	1	10	0				
Contingencies	...	...	...	0	4	0				
				<hr/>				1,992	6	0
Balance	...		...					5,755	3	1
								<hr/>		
Total Rs.			...					7,747	9	1
								<hr/>		

Cr.

O. LITTLE,
Honorary Secretary and Treasurer,
Asiatic Society of Bengal.

Examined and found correct.
MEUGENS, KING & SIMSON,
Auditors.

STATEMENT

Personal

Dr.

		Rs. As. P.	Rs. As. P.
To Balance from last report	... ..	.....	3,270 8 11
To CASH EXPENDITURE.			
Advances for purchase of Sanskrit Manuscripts, &c.	.....		662 0 6
To Asiatic Society	8,085 8 9	
„ Oriental Publication Fund	1,812 8 9	
			9,397 12 6

Total Rs.	...	<u>13,330 5 11</u>
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No. 4.

*Account.***Cr.**

				Rs.	As.	P.	Rs.	As.	P.
By Cash Receipts			9,236	0	0
„ Asiatic Society	168	5	0			
„ Oriental Publication Fund	...	...	...	5	4	0			
							173	9	0

By Balance.			Due to the Society.			Due by the Society.			
			Rs.	As.	P.	Rs.	As.	P.	
Members	...	...	3,791	2	4	188	8	0	
Subscribers	...	...	...	...	...	93	12	0	
Employes	...	...	30	0	0	350	0	0	
Agents	...	...	169	2	6	...	...	...
Miscellaneous	...	...	710	5	0	147	8	11	
			4,700	9	10	779	12	11	3,920 12 11

Total Rs. ... 13,330 5 11

C. LITTLE,
Honorary Secretary and Treasurer,
Asiatic Society of Bengal.

Examined and found correct.
MEUGENS, KING & SIMSON,
Auditors.

STATEMENT

Invest

Dr.

				Nominal.			Actual.		
				Rs. As. P.			Rs. As. P.		
To Balance from last report	1,64,300	0 0	1,65,083	4 9	
„ Cash	5,000	0 0	5,053	11 0	
Total Rs.				...	1,69,300	0 0	1,70,136	15 9	

FUNDS.*	PERMANENT.						TEMPORARY.						TOTAL OF ACTUALS.		
	Nominal.			Actual.			Nominal.			Actual.					
	Rs.	As.	P.	Rs.	As.	P.	Rs.	As.	P.	Rs.	As.	P.	Rs.	As.	P.
Asiatic Society...	1,40,900	0	0	1,40,640	0	0	22,100	0	0	23,075	2	5	1,63,715	2	5
Trust Fund ...	1,300	0	0	1,295	12	9	...	...	...	...	...	...	1,295	12	9
	1,42,200	0	0	1,41,935	12	9	22,100	0	0	23,075	2	5	1,65,010	15	2

STATEMENT

Trust

Dr.

				Rs. As. P.		
To Pension	48	0 0
„ Balance	1,343	3 10
Total Rs.				...	1,391	3 10

No. 5.
ment.

Cr.

				Nominal.	Actual.
				Rs. As. P.	Rs. As. P.
By Cash	...	...	...	5,000 0 0	5,126 0 7
„ Balance*	...	...	...	1,64,300 0 0	1,65,010 15 2
Total Rs.				1,69,300 0 0	1,70,136 15 9

C. LITTLE,
Honorary Secretary and Treasurer,
Asiatic Society of Bengal.

Examined and found correct.
MEUGENS, KING & SIMSON,
Auditors.

No. 6.
Fund.

Cr.

				Rs. As. P.
By Balance from last report	...	...	...	1,343 3 10
„ Interest on Investments	...	...	...	48 0 0
Total Rs.				1,391 3 10

C. LITTLE,
Honorary Secretary and Treasurer,
Asiatic Society of Bengal.

Examined and found correct.
MEUGENS, KING & SIMSON,
Auditors.

STATEMENT

Cash

Dr.

					Rs.	As.	P.
To Balance from last report	...	...	...	...	5,997	15	1
RECEIPTS.							
To Asiatic Society	...	...	...	...	9,745	13	9
„ Oriental Publication Fund	...	...	...	...	9,439	15	0
„ Sanskrit MSS. Fund	...	...	...	...	3,205	0	0
„ Personal Account	...	...	...	...	9,236	0	0
„ Trust Fund	...	...	...	...	48	0	0
„ Investments	...	...	...	...	5,128	0	7
Total Rs.					...	42,798	12 5

STATEMENT

Balance

Dr.

						Rs.	As.	P.
To Cash	...	...	...	...	...	2,786	10	5
„ Investments	...	...	...	...	...	1,65,010	15	2
„ Personal Account	...	...	...	...	...	3,920	12	11
Total Rs.					...	1,71,718	6	6

No. 7.
Account.

Cr.					Rs. As. P.		
EXPENDITURE.							
By Asiatic Society	...	...	...	...	20,130	11	8
„ Oriental Publication Fund	...	...	...	...	12,125	4	10
„ Sanskrit MSS. Fund	...	...	...	...	1,992	6	0
„ Personal Account	...	...	...	...	662	0	6
„ Trust Fund	...	...	...	...	48	0	0
„ Investments	...	...	...	...	5,053	11	0
		Balance	...	...	2,786	10	5
Total Rs.					42,798	12	5

C. LITTLE,
Honorary Secretary and Treasurer,
Asiatic Society of Bengal.

Examined and found correct.
MEUGENS, KING & SIMSON,
Auditors.

No. 8.
Sheet.

Cr.					Rs. As. P.		
By Asiatic Society	...	...	...	...	1,53,455	3	7
„ Oriental Publication Fund	...	...	...	...	11,164	12	0
„ Sanskrit MSS. Fund	...	...	...	...	5,755	3	1
„ Trust Fund	...	...	...	...	1,343	3	10
Total Rs.					1,71,718	6	6

C. LITTLE,
Honorary Secretary and Treasurer,
Asiatic Society of Bengal.

Examined and found correct.
MEUGENS, KING & SIMSON,
Auditors.

LIST OF ALL SOCIETIES, INSTITUTIONS, &c.,
TO WHICH
THE PUBLICATIONS OF THE ASIATIC SOCIETY
HAVE BEEN SENT DURING THE YEAR, OR FROM WHICH
PUBLICATIONS HAVE BEEN RECEIVED.

List of all Societies, Institutions, &c., to which the Publications of the Asiatic Society have been sent during the year, or from which publications have been received.

* Societies, &c., which have received the Asiatic Society's publications, and have sent their publications in return.

† Societies, &c., which have received the Asiatic Society's publications, but have sent none in return.

§ Societies, &c., whose publications have been received, but to which none have been sent in return.

* Allahabad :—Editor, *Pioneer*.

† Amsterdam :—Royal Zoological Society.

* ——— :—Koninklijke Akademie van Wetenschappen.

* Angers :—Société d' Etudes Scientifiques d' Angers.

§ Austin :—Texas Academy of Sciences.

* Baltimore :—Johns Hopkins University.

* Batavia :—Society of Arts and Sciences.

* ——— :—Kon. Naturkundige Vereeniging in Nederlandsch-Indië.

§ Berlin :—Entomologische Verein.

* ——— :—Berliner Gesellschaft für Anthropologie, Ethnologie und Urgeschichte.

* ——— :—Gesellschaft Naturforschende Freunde zu Berlin.

* ——— :—Royal Academy of Sciences.

† Berne :—Société Suisse d' Entomologie.

* Bombay :—Bombay Anthropological Society.

* ——— :—Bombay Branch, Royal Asiatic Society.

* ——— :—Editor, *Indian Antiquary*.

* ——— :—Editor, *Times of India*.

* ——— :—Natural History Society.

† Bonn :—University of Bonn.

* Bordeaux :—L' Académie Nationale des Sciences, Belles-Lettres et Arts.

* ——— : Société Linnéenne.

§ Boston :—American Philological Association.

* ——— :—Natural History Society.

§ ——— :—American Oriental Society.

* Brisbane :—Royal Society of Queensland.

§ ——— :—Editor, *Queensland Agricultural Journal*.

† Brookville :—Society of Natural History.

† Brunswick :—Verein für Naturwissenschaft.

- † Brussels :—L' Académie Royale des Sciences.
- † ——— :—Musée Royal d' Histoire Naturelle de Belgique.
- * ——— :—Société Entomologique de Belgique.
- † ——— :—La Société Royal Malacologique de Belgique.
- * ——— :—Société Royale des Sciences de Liége.
- † Budapest :—Hungarian Central Bureau for Ornithological Observations.
- * ——— :—Royal Hungarian Academy of Sciences.
- * Buenos Ayres :—National Museum.
- * ——— :—Academia Nacional de Ciencias de la Republica Argentina.
- * Caen :—Société de Linnéenne de Normandie.
- † Calcutta :—Agri-Horticultural Society of India.
- * ——— :—Geological Survey of India.
- * ——— :—Editor, *Englishman*.
- * ——— :—Editor, *Indian Daily News*.
- § ——— :—Editor, *Indian Engineering*.
- * ——— :—Editor, *Indian Mirror*.
- § ——— :—Editor, *Indian Lancet*.
- * ——— :—Indian Meteorological Department.
- * ——— :—Indian Museum.
- § ——— :—Mahabodhi Society.
- § ——— :—Microscopical Society.
- § ——— :—Photographic Society of India.
- * ——— :—Survey of India.
- * ——— :—Tuttobodhini Shova.
- § ——— :—Editor, *Wealth of India*.
- * ——— :—University Library.
- * Cambridge :—University Library.
- * Cassel :—Die Verein für Naturkunde.
- † Cherbourg :—Société Nationale des Sciences Naturelles.
- * Chicago, Ill. :—Editor, *American Antiquarian and Oriental Journal*.
- § ——— :—Chicago Academy of Sciences.
- * ——— :—Field Columbian Museum.
- * Christiana :—University Library.
- * Colombo :—Ceylon Branch, Royal Asiatic Society.
- * Copenhagen :—La Société Royale des Antiquaires du Nord.
- † Cuttack :—Cuttack Library.
- * Danzig :—Naturforschende Gesellschaft.
- * Dehra Dun :—Great Trigonometrical Survey.
- § Dorpat :—Naturforscher-Gesellschaft.
- * Dresden :—Entomologischer Verein "Iris."
- † ——— :—Königlich Zoologisches und Anthropologisch-Ethnographisches Museum zu Dresden.

- † Dublin :—Royal Dublin Society.
- * ——— :—Royal Irish Academy.
- † Edinburgh :—Royal Society.
- § ——— :—Royal Physical Society.
- † ——— :—Scottish Geographical Society.
- * Florence :—Società Italiana di Anthropologia, Etnologia e Piscologia Comparata.
- * ——— :—Società Africana d'Italia.
- * Frankfurt :—Senckenbergische Naturforschende Gesellschaft.
- * ——— :—Naturwissenschaftlicher Verein des Reg.-Bez Frankfurt.
- † Geneva :—Société de Physique et d' Histoire Naturelle.
- * Genoa :—Museo Civico di Storia Naturale.
- * Giessen :—Oberhessische Gesellschaft für Natur und Heilkunde.
- * Graz :—Naturwissenschaftlicher Verein für Styria.
- * Hague :—Köninklijk Instituut voor de Taal-Land-en Volkenkunde van Nederlandsch-Indië.
- * ——— :—Netherlands Entomological Society.
- * Hamburg :—Naturhistorisches Museum zu Hamburg.
- * ——— :—Naturwissenschaftlicher Verein.
- § Halifax :—Nova Scotian Institute of Science.
- † Halle :—Deutsche Morgenländische Gesellschaft.
- * ——— :—Kaiserliche Leopoldinisch-Carlinische Akademie.
- * Hamilton (Canada) :—Hamilton Association.
- * Havre :—Société de Géographie Commerciale du Havre.
- † Helsingfors :—Societas pro Flora et Fauna Fennica.
- * ——— :—Société Finno Ougrienne.
- * ——— :—Société des Sciences de Finlande.
- § Kiel :—Naturwissenschaftliche Vereins für Schleswig-Holstein.
- † Kiev :—Société des Naturalistes.
- * Königsberg :—Die Physikalische-Oekonomische Gesellschaft.
- † La Plata :—Museo de La Plata Republica Argentina.
- * Lahore :—Editor, *Civil and Military Gazette*.
- † ——— :—Agricultural Society.
- § Lawrence, Kansas :—Kansas University.
- § Leipzig :—Deutsche Morgenländische Gesellschaft.
- § ——— :—Die K. Sächsische Gesellschaft der Wissenschaften.
- † Leyden :—Royal Herbarium.
- * Liège :—Société Géologique de Belgique.
- * Liverpool :—Literary and Philosophical Society.
- * London :—Anthropological Institute.
- * ——— :—Editor, *Academy*.
- * ——— :—Editor, *Athenæum*.

- * London :—British Museum.
- * ——— :—Geological Society.
- * ——— :—Institution of Civil Engineers.
- * ——— :—Institution of Electrical Engineers.
- * ——— :—Institution of Mechanical Engineers.
- * ——— :—Editor, *Nature*.
- * ——— :—Linnean Society.
- * ——— :—Royal Asiatic Society of Great Britain and Ireland.
- * ——— :—Royal Astronomical Society.
- * ——— :—Royal Geographical Society.
- * ——— :—Royal Institution of Great Britain.
- * ——— :—Royal Microscopical Society.
- * ——— :—Royal Society.
- * ——— :—Statistical Society.
- * ——— :—Zoological Society.
- * Lyons :—La Société d' Agriculture, d' Histoire Naturelle et des Arts Utiles.
- † ——— :—Muséum d' Histoire Naturelle,
- * ——— :—La Société d' Anthropologie.
- † Madison, Wiss. :—Wisconsin Academy of Sciences, Arts and Letters.
- † Madras :—Literary Society.
- * ——— :—Government Central Museum.
- § ——— :—Editor, *Indian Journal of Education*.
- * Melbourne :—Royal Society of Victoria.
- * Manchester :—Literary and Philosophical Society.
- * Mexico :—Sociedad Científica " Antonio Alzate."
- § ——— :—Instituto Geológico de México.
- § Montevideo :—Museo Nacional de Montevideo.
- * Moscow :—Société Imperiale des Naturalistes.
- * Munich :—K. Bayerische Akademie der Wissenschaften.
- * Nantes :—Société des Sciences Naturelles de l' ouest de la France.
- † Naples :—Società Africana d' Italia.
- § Neuchatel :—La Société Neuchateloise de Géographie.
- † New Haven :—Connecticut Academy of Arts and Sciences.
- § ——— :—Yale University.
- † Newport (R. I.) :—Natural History Society.
- * New York :—American Museum of Natural History.
- † Ottawa :—Geological and Natural History Survey of the Dominion of Canada.
- § ——— :—Royal Society of Canada.
- † Oxford :—Bodleian Library.
- † ——— :—Indian Institute.

- * Paris :—Société de Géographie.
- * ——— :—Société d' Anthropologie.
- * ——— :—Société Asiatique.
- § ——— :—Société Philomathique de Paris.
- * ——— :—Musée Guimet.
- † ——— :—National Library.
- § ——— :—Observatoire d'Astronomie Physique de Paris.
- * ——— :—Société Zoologique.
- † ——— :—Société Académique Indo-Chinoise.
- * ——— :—Muséum d' Histoire Naturelle.
- * Pennsylvania :—University of Pennsylvania.
- * Philadelphia :—Academy of Natural Sciences.
- § ——— :—American Academy of Political and Social Science.
- § ——— :—American Philosophical Society.
- § ——— :—Franklin Institute.
- † ——— :—Editor, *Journal of Comparative Medicine and Surgery*.
- * Pisa :—Société Toscana di Scienze Naturali.
- § Prague :—K. K. Sternwarte.
- § Rome :—Editor, *L'Oriente*.
- § ——— :—Revista Geografica Italiani.
- * ——— :—Società degli Spettroscopisti Italiani.
- § Roorkee —Editor, *Indian Forester*.
- § St. Louis :—Academy of Science of St. Louis.
- * St. Petersburg :—Comité Géologique.
- † ——— :—Imperial Library.
- * ——— :—Russian Geographical Society.
- * ——— :—Académie Impériale des Sciences.
- † ——— :—Horti Petropolitani.
- § ——— :—Die Russisch-Kaiserliche Mineralogische Gesellschaft zu
St. Petersburg.
- † San Francisco :—Californian Academy of Arts and Sciences.
- § Santiago :—Deutscher Wissenschaftlicher Verein.
- § Schaffhausen :—Swiss Entomological Society.
- † Shanghai :—China Branch, Royal Asiatic Society.
- § ——— :—Editor, *Chinese Recorder*.
- * Simla :—United Service Institution of India.
- * Stettin :—Entomological Society.
- * Stockholm :—Entomologische Tidskrift.
- * ——— :—Royal Swedish Academy of Sciences.
- * Stuttgart :—Der Verein für vaterländische Naturkunde in Württem-
berg.
- * Sydney :—Royal Society of New South Wales.

